PACKAGE engineering

Is packaging too complex?

A common thread of technology ties together its myriad activities. Finding this shows you its unified whole, revealing its professional growth and needs—Page 45

Don't "guess" about temperature

Good heat sealing depends on precise control of machine temperature by reducing temperature variations and having dynamic indication and control—Page 54

Build line around cartoner

To run at 400 a minute you first choose your cartoner and set your carton specifications. Then make the other line components fit within these requirements—Page 60

New products, literature—Page 86

Complete contents—Page 2

AUGUST 1961

VOLUME 6 • NUMBER 1

PACKAGE engineering

AUGUST 1961 • VOLUME 6 • NUMBER 8 • AN ANGUS J. RAY PUBLICATION

TABLE OF CONTENTS

Key technology unifies packaging's activities, professionalizes them 45

by Frank C. Campins, president, Polymer Industries, Inc.

A philosophical look at packaging—its technology, scope, need for professionalization and for a single professional institute.

Attention to details proves key to structural, functional design 50

Proper material selection, manufacturing "shortcuts," and production line knacks give Sears, Roebuck and Co. an economical vitamin package.

Effective heat sealing requires precise temperature control 54

by R. F. Novak, chemist, and F. T. Ratliff, director of research, Rhinelander Paper Company, Division of St. Regis Paper Company

Autotransformers offer one economical and relatively simple way to reduce temperature variation in heat sealing equipment.

Faster cartoning demands new line 60

Starting with the cartoner, Eastman Kodak Co. engineers designed a line to package round film cans at a rate of 400/min.

Incoming inspection does pay 72

by Howard A. Richards, manager, package standards department, and Gordon W. Fraser, supervisor, incoming inspection of packaging supplies, Abbott Laboratories

A team of inspection "specialists" lets vendors know what is expected of them, keeps unacceptable materials from reaching lines and jamming machinery.

"Mail order" high-speed packaging line 78

by J. A. McAuley, assistant senior engineer, Socony Mobil Oil Company, Inc., and J. R. Mallard, chief, packaging filling and shipping service, Mobil Oil Francaise

Cooperation and planning (all by correspondence) resulted in a packaging line of U.S.- and French-built machinery for Socony's affiliate in France.

Packaging Institute glossary now part of Federal Standard 75 103

The third edition of PI's Glossary of Packaging Terms *is now available.*

DEPARTMENTS

A note from the Publisher:
Consider packaging when changing product design 4

For your calendar 6

The PULSE of packaging 10

Announcements of machinery and products .. 86

Industry literature available free 94

Classified advertising 104

Index of advertisers 105

What we think:
New challenges call for broader view of packaging. 106

Reader Service Cards .....**inside front cover**

Our December, 1961 issue will carry a cumulative editorial index for the year, listing our feature articles by subject and author.

Package Engineering is indexed in Engineering Index

100% MORE SECURITY IN 50% LESS TIME WITH THE BOSTITCH® "GOLDEN BELT" STAPLER

The Bostitch "Golden Belt" stapler, used to close tops and bottoms of 275-lb.-test telescope corrugated boxes, has cut time in half compared with the former method used by the Crescent Metal Products, Inc. of Cleveland, Ohio.

The increased efficiency is due to the lack of time-consuming adjustments for the various thicknesses of C-flute corrugation in the cartons. According to the company, "100% more security" has been attained over the old method of shipping its commercial food industry cabinets, racks, conveyors and utility carriers.

Your Bostitch Economy Man – one of 350 in 123 U. S. and Canadian cities – can probably save time, money and materials for you, too.

For cost and speed facts on setting up and closing your cartons, call him. He's listed under Bostitch in your phone book or you can write the address below.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

868 Briggs Drive, East Greenwich, Rhode Island

For more information circle No. 203 on Reader Service Card

A note from the Publisher

Consider packaging when changing product design

Structural design of a package is frequently blamed for product damage when the real reason is poor product design or failure to consider all the hazards to which the packaged product will be exposed.

The manufacturer today is under constant pressure to keep costs down and for this reason may change the product design. But when proper packaging isn't considered at the same time, trouble can result. For instance, a stove manufacturer may reduce the gauge of metal or the number of welds, neither of which will affect the performance of the stove. Frequently a modest reduction of this nature reduces costs with no ill effects.

However, if these two factors are reduced too much, dealers may find stoves are being received that are coming apart or are bent. Immediately packaging is blamed. If the product is weakened, then packaging must be strengthened. You can protect anything in shipment, but a fragile product obviously requires more packaging.

Recently I saw a wood cabinet that was damaged in shipment. The shipping container that had carried thousands of similar cabinets without damage was immediately blamed. Investigation proved that the cabinet maker had eliminated a gluing operation. Doing this saved practically nothing in manufacturing cost but weakened the product so that damage resulted.

Another current example is that of a package that had been performing satisfactorily for a food product for several years. When the company started to ship to the West Coast, a change in appearance of the product was noticed. At first the package was thought to be at fault, but the difference in air pressure that occurred shipping through Denver turned out to be the culprit. Shipping the product in the same package to the Coast by a southern route eliminated the trouble.

These examples are typical of what is happening every day. Caliper of board cannot be reduced indefinitely without a drop in protection. Products cannot be changed without considering the demands on packaging that these changes may make.

Any change in design of a product or in distribution can change the effectiveness of your package.

Packaging should be considered when the product itself is being designed, not after. Packaging should be considered when any change in a product is being made.

Angus J. Ray

Publisher

PACKAGE engineering®

AN ANGUS J. RAY PUBLICATION

Angus J. Ray
Publisher

R. Bruce Holmgren
Editor

Harry E. Vick, Jr.
Senior Associate Editor

Anna May Schenck
Associate Editor

David L. Olsson
Field Editor

Laurence V. Burton
Contributing Editor

Judy Van Dam
Managing Editor

Lois J. Madison
Assistant Editor

Stephanie H. Welden
Advertising Production Manager

Lloyd Gossman
Circulation Manager

Burton Cherry
Art Director

Executive and editorial offices
185 North Wabash Avenue
Chicago 1, Illinois
Telephone: FInancial 6-1440

Advertising sales offices:
Irwin F. Megargee
National Bank Building
Ocean City, New Jersey
Telephone: 399-3519

Arnold Gieseler
299 Madison Avenue
New York 17, New York
Telephone: YUkon 6-8575

William H. Mathée, Jr.
185 North Wabash Avenue
Chicago 1, Illinois
Telephone: FInancial 6-1440

West Coast representative
The Robert W. Walker Company:
730 South Western Avenue
Los Angeles 5, California
Telephone: DUnkirk 7-4388

57 Post Street
San Francisco 4, California
Telephone: SUtter 1-5568

Package Engineering is published monthly by Angus J. Ray Publishing Co., 185 North Wabash Avenue, Chicago 1, Illinois. Angus J. Ray, president; R. B. Holmgren and I. F. Megargee, vice presidents; James G. Culbertson, secretary; and Ethyl K. Ray, treasurer. Please address articles for publication and correspondence regarding the editorial content to the editor. Statements and opinions expressed in articles are those of the respective authors for which Package Engineering assumes no responsibility.

Copyright 1961 by Angus J. Ray Publishing Co. The name Package Engineering is registered in the U.S. Patent Office.

Package Engineering is circulated without charge to engineering, research, development, production, and purchasing personnel concerned with packaging in all companies packaging their products for marketing or shipment. Thus, qualified recipients are engineering and technical personnel concerned with package research and development, packaging production and packaging purchasing, within the United States. To all others, the subscription rate is $10.00 per year in U.S., possessions, and Canada; $25.00 per year in all other countries.

Member of
Business Publications Audit
of Circulation, Inc.

BPA

A maximum protection package in little more than 1/2 second

...WITH AVISCO® RS CELLOPHANE

Yes, over 100 duplex bags of Tom's Toasted Peanuts fly off each packaging machine every minute at Tom Huston Peanut Company, thanks to Avisco RS cellophane. (Little wonder. RS is the only polymer-coated film that performs at such high speeds.) But that's not all! Since switching to RS, sales have increased 25%—and shelf life has doubled. For RS has pure transparency and sparkle. It prints beautifully. And it provides superior protection against moisture, salt and oils. If you want such packaging benefits, contact us for an appointment with our representative or a selected cellophane converter.

AVISCO

AMERICAN VISCOSE CORPORATION, FILM DIVISION, 1617 PENNSYLVANIA BLVD., PHILADELPHIA 3, PENNA.
SALES OFFICES ALSO LOCATED IN ATLANTA, BOSTON, CHICAGO, DALLAS, LOS ANGELES AND NEW YORK.

BREAK THAT

If you regularly address 5 or more cartons per shipment, you can make important savings and avoid costly errors by addressing your multiple shipments with

STEN·C·LABLS*

As a by-product of office procedure

You can prepare STEN-C-LABLS at the same time as your invoice, order, bill of lading or shipping papers—whatever your procedure or equipment—manual or electric typewriters, electric billing or accounting machines, slave machines or various IDP systems.

Imprinting direct to PANL-LABL on carton

Your shipping department makes unlimited impressions with STEN-C-LABL Applicator direct to PANL-LABL printed on carton eliminating expensive, time-consuming gummed labels. All addressing errors, mis-shipments and repetitive writing are avoided.

DURABLY MARKED AND PLAINLY LEGIBLE at handling distance. A STEN-C-LABL address is sunproof and waterproof—becomes permanent part of carton. Reproduction is sharp and easy to read at handling distance.

You might be shocked . . .

. . . to find how antiquated and outdated your present method of addressing multiple shipments actually is. *Five minutes of your time* in checking your multiple shipping procedures may save you thousands of dollars!

Send for **FREE BROCHURE** *giving full details!*

STEN·C·LABL, INC.

Dept. PE-8, 1821 University Ave., St. Paul 4, Minn.

Please send me FREE BROCHURE on saving with STEN-C-LABLS.

Name_____

Company_____

Address_____

City_____ State_____

*Registered U.S. Pat. Off. The term STEN-C-LABL is the trademark and exclusive property of STEN-C-LABL, Inc. All STEN-C-LABLS are manufactured exclusively by STEN-C-LABL, Inc., St. Paul, Minn. under U.S. Pat.No. 2,771,026. Other patents pending. Also available in Canada.

For your calendar

August 14-18. AMA workshop seminar on using military preservation and packaging data systems:

Colgate University, Hamilton, N.Y. Contact: John L. Wood, packaging coordinator, American Management Association, 1515 Broadway, New York 36, N.Y. *Telephone: JUdson 6-8100.*

September 17-22. University of California short course in plant layout, material handling, warehousing and shipping:

Lake Arrowhead Conference Center, Lake Arrowhead, Calif. Contact: Dr. Sam Houston, Department K, University Extension, University of California, Los Angeles 24, Calif. *Telephone: GRanite 3-0971 or BRadshaw 2-6161.*

September 18-23. The University of Kansas 6th Annual Plant Layout and Facilities Planning Course:

Town House Hotel, Kansas City, Kan. Contact: E. S. Avison, assistant manager, The University of Kansas Extension Center, 39th and Rainbow Blvd., Kansas City 3, Kan. *Telephone: KEndall 2-1538 or 2-9387.*

September 26-27. Research and Development Associates military-industry conference:

LaSalle Hotel, Chicago, Ill. Contact: Lt. Col. Harlan J. Wills, AUS-Ret., executive secretary, Research and Development Associates, 1819 W. Pershing Road, Chicago 9, Ill. *Telephone: LAfayette 3-5500, Ext. 4267.*

October 1-4. Produce Packaging Association 11th Annual Convention and Exposition:

Chase—Park Plaza Hotel, St. Louis, Mo. Contact: Robert L. Carey, executive secretary, Produce Packaging Association, P.O. Box 29, Newark, Del. *Telephone: ENdicott 8-2906.*

October 10-12. Department of Defense (Director of Defense Research and Engineering) 30th Symposium on Shock, Vibration and Associated Environments:

Statler Hilton Hotel, Detroit, Mich. Contact: Code 4021, U.S. Naval Research Laboratory, Washington 25, D.C. *Telephone: JOhnson 3-6600, Ext. 2220.*

October 18-20. Packaging Institute 23rd Annual National Packaging Forum:

Biltmore Hotel, New York, N.Y. Contact: Charles A. Feld, executive director, Packaging Institute, 342 Madison Ave., New York 17, N.Y. *Telephone: MUrray Hill 7-8875.*

November 7-10. Packaging Machinery Manufacturers Institute Show of 1961:

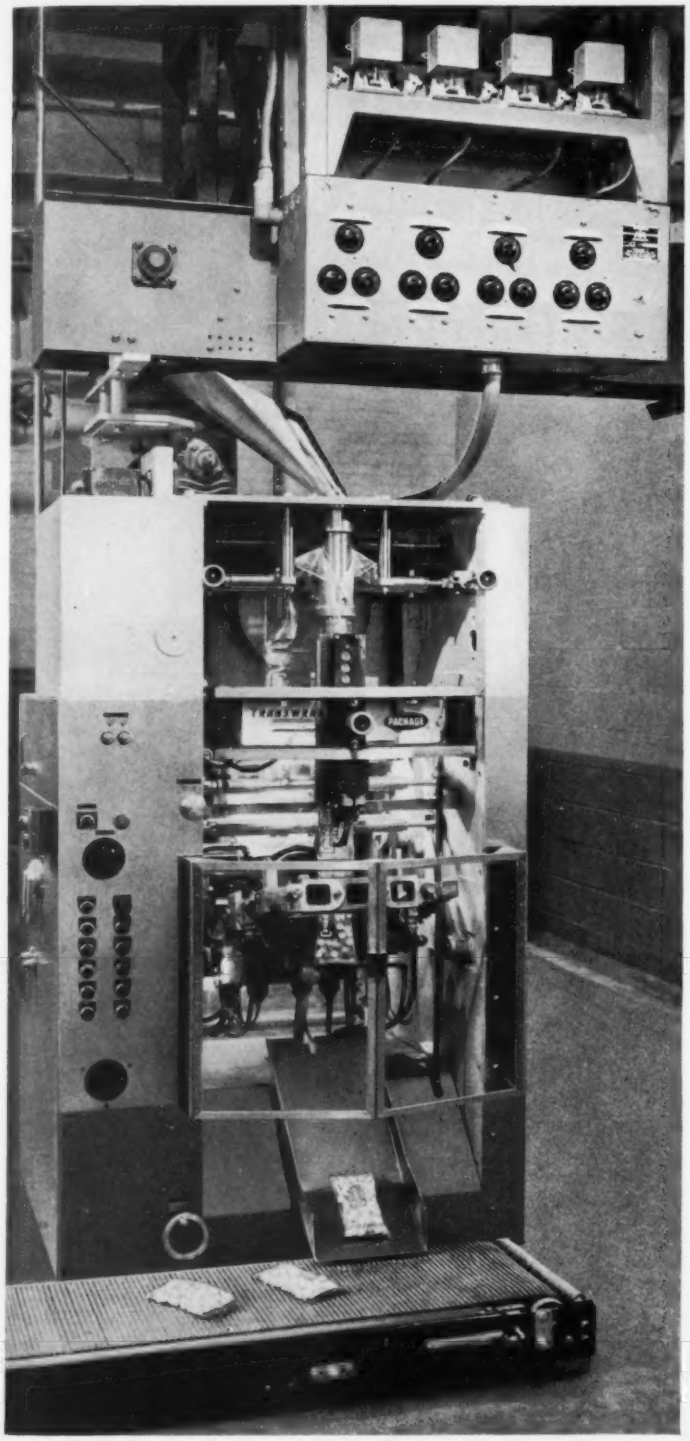
Cobo Hall, Detroit, Mich. Contact: W. L. Redding, Shea Expositions Corp., One Gateway Center, Pittsburgh 22, Pa. *Telephone: ATlantic 1-8552.*

November 8-9. PMMI Preventive Maintenance Conference-Workshop:

Cobo Hall, Detroit, Mich. Contact: Richard Wellbrock, New Jersey Machine Corp., 1600 Willow Ave., Hoboken, N.J. *Telephone: OLdfield 9-0483.*

November 13-14. Society of Packaging & Handling Engineers 1961 National Packaging and Materials Handling Competition, and 7th Annual Eastern Packaging and Handling Show:

Fifth Regiment Armory Hall, Baltimore, Md. Contact: C. Telfair Leinbach, Jr., 3120 St. Paul St., Baltimore 18, Md. *Telephone: HOpkins 7-6363. (End)*



TRANSWRAP S-750 GIVES NECCO HIGH-SPEED AUTOMATIC PACKAGING

On their Canada Mint packaging operation, New England Confectionery Co. now automatically forms, fills and seals 9-oz. polyethylene bags on a Package Transwrap S-750. Sustained production rate for the 4⅝″ x 8½″ bags is 60 a minute.

NECCO gets high-speed operation and flexibility of bag sizes and materials with its Transwrap. The machine runs virtually unattended, and the net weight scale feed maintains extremely close accuracy. Their 6-oz. and 8-oz. mint packages are planned for this unit in the near future.

If you're interested in the benefits of high-speed automatic operation, call your Package representative. He will be glad to explain how the Transwrap S-750 can help you produce a smarter package, faster and at lower cost.

The Package Transwrap S-750 offers these cost-cutting features that mean speed, flexibility and efficiency to any packaging operation:

- Wide size range—bags 3″ to 15″ long, 2″ to 8½″ wide.
- Up to 75 bags a minute with a single tube; easy speed adjustment.
- Handles a wide variety of plastic and heat-sealable films.
- Rapid film and size change-overs.
- Smooth, straight pull on material, even at high speeds, by spring-counterbalanced, crank-operated drawbar.
- Improved paper feed operates faster, eliminates film distortion.
- Tight, positive impulse sealing of ends and longitudinal seam.

In addition to Canada Mints, NECCO plans to use the Transwrap to package other candy products in both polyethylene and cellophane bags.

PACKAGING IS PART OF YOUR PROFIT PICTURE

PACKAGE MACHINERY COMPANY, EAST LONGMEADOW, MASS.

NEW YORK • PHILADELPHIA • ATLANTA • BOSTON • CLEVELAND • CHICAGO • KANSAS CITY
DALLAS • HOUSTON • LOS ANGELES • SAN FRANCISCO • SEATTLE • TORONTO • MEXICO CITY

PACKAGE

PMMI

For togetherness in packaging...

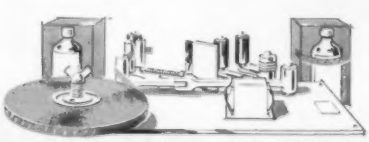
the "matchmaker" is a SCOTCH BRAND applicator

REG. U.S. PAT. OFF.

What do you know that *can't* be hugged together with printed, colored, or transparent "Scotch" Brand Tapes and 3M-Matic equipment? Don't bet on it. Over the past several years 3M Customer Service Engineers have made a habit of getting difficult combinations together – and at production-line speed.

If you sense a note of assuredness in our attitude, it is only to goad you into giving us a really "impossible" combining problem.

Submit your "stumper" to your 3M Representative, nearest "Scotch" Brand Tape Distributor, or to: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IBH-81.



"Scotch" Brand Combination Bundler Heads can be mounted singly or in pairs for all types of *togetherness* packaging at speeds up to 75 units per minute.

MINNESOTA MINING AND MANUFACTURING COMPANY

...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

© 1961, 3M CO.; "SCOTCH" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.

The vital cushion between profit and loss... **kimpak**®
INTERIOR PACKAGING

Kimpak protects merchandise from scratches, nicks and dents. Cushions against shocks and breakage. Guards that fine line of profitability companies must maintain.

Packers like Kimpak. It's clean, easy to work with and lightweight. Highly conformable, it speeds packaging operations.

Kimberly-Clark

FREE SAMPLE ROLL!

Kimpak now offers new and improved types—and most important, some lower in cost—to give you greater packaging economy. Send coupon today for FREE SAMPLE ROLL and full particulars.

Kimberly-Clark Corporation, Dept. PE-81, Neenah, Wis.
Please send sample roll of new 30" wide Kimpak interior packaging to try in my plant—at no obligation on my part.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

The PULSE of packaging

Notes from the government:

All the nonalcoholic carbonated beverages must bear a label declaration of ingredients after June 15, 1962, the FOOD AND DRUG ADMINISTRATION reports. These soft drinks have been exempt from this requirement since 1941.

George P. Larrick, commissioner of food and drugs, concludes it is now in the public interest to terminate this exemption. "There have been a number of consumer complaints because of the failure of carbonated beverages to bear a statement of ingredients," he noted.

Mr. Larrick also recently warned the nation's druggists that physicians' samples of potentially dangerous prescription drugs are being mixed and mislabeled by repackers who collect them from physicians and drug salesmen. FDA inspectors recently made several seizures of repackaged stocks of containers holding drugs other than those indicated on labels.

Now the FDA has launched a nationwide investigation into the handling of physicians' samples of prescription drugs. Our own impression is that this inquiry is but one phase of FDA's growing interest in problems of mislabeling and misbranding.

The containers and packaging division of the DEPARTMENT OF COMMERCE has its own answer to growing competition for potential executive talent. Its latest addition is James M. Devlin, who is now understudying Osker Reynolds, editor of *Containers and Packaging Industry Report*.

Mr. Devlin, a graduate of St. John's University in business and economics, took the federal entrance examination while in college. He is now winding up a two-year executive trainee program designed to build future executives for the government. This rotation gives the trainees background in various areas of government for their regular assignments such as the one Mr. Devlin is working into at the Department of Commerce.

Want to tackle some research for the government? Each of the Army's seven technical services has published a volume of the U.S. Army Research and Development Problems Guide containing 1,049 problems the Army would like to solve.

Some of these books are secret or confidential, but Volume V (which concerns packaging) is "unclassified." Those interested in getting it should write: Commanding General, U.S. Army Quartermaster Research and Engineering Command, Natick, Mass.

Meanwhile packaging experts elsewhere in the services have been doing some forward thinking of their own. We understand there is much interest in having a single packing level—one container to do all jobs instead of having three such levels.

Our impression is they specifically want wet-strength corrugated for all modes of transportation, storage conditions, and the like. The strength and lightness of weight of these packages intrigued the military, but big problems are the cost of the board and the environmental hazards.

Other "blue-sky" (and beyond) thinking indicates military interest in free-breathing containers which are light in weight and low in cost —for high-altitude packaging. A breathing container would be one in which the pressure inside a package changes with the environment.

What they want are containers to go into space and still be "practical." Many currently available containers are too strong, heavy, and bulky to meet this need.

Groups in the news:

Indicative of current top management in packaging: David G. Hill, president of Pittsburgh Plate Glass Co., received the first annual industrial packaging award from the Steel City Chapter of the SOCIETY OF PACKAGING AND HANDLING ENGINEERS, Pittsburgh. The SPHE group cited Pittsburgh Plate for its outstanding contribution to the furtherance of packaging in the Tri-State area.

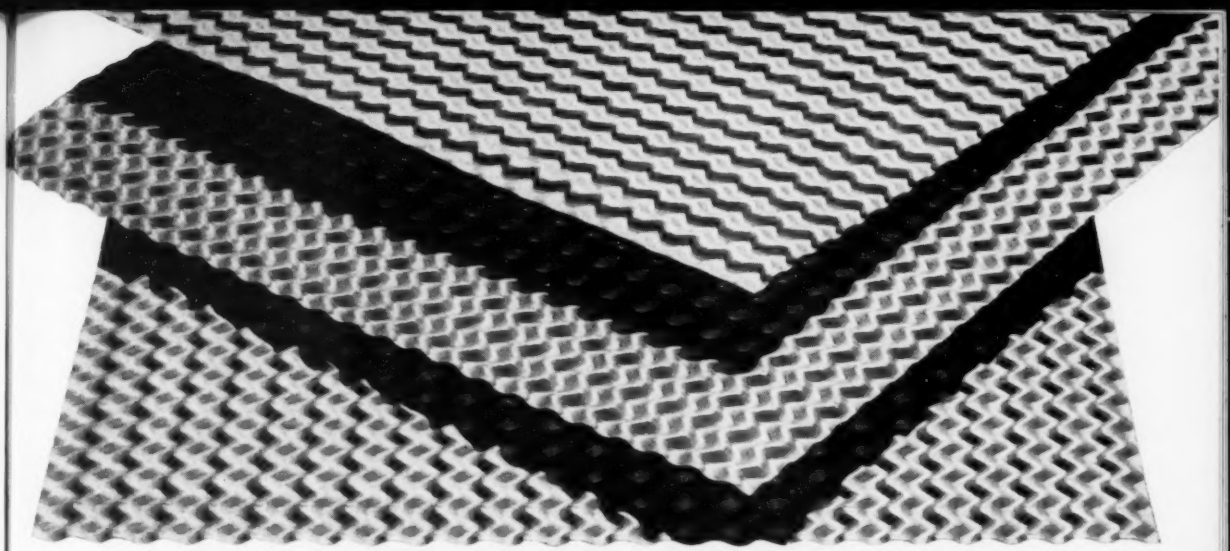
"Pittsburgh Plate has always tried to do a good job in the industrial packaging field where skillful design, safety factors, ease of handling, and simplification of inventory procedures have all led to cost reduction," Mr. Hill stated.

Citing his company's growing awareness of the importance of proper packaging procedures, he explained that his company in some instances furnishes illustrated brochures with step-by-step instructions covering these points.

Presentation of this award also took appreciative note of the efforts of Pittsburgh Plate's management personnel in establishing SPHE's Steel City Chapter and in encouraging the promotion of better packaging throughout the area.

The Industry Advisory Committee on Corrugated Container Research has decided to undertake its own research on the controver-

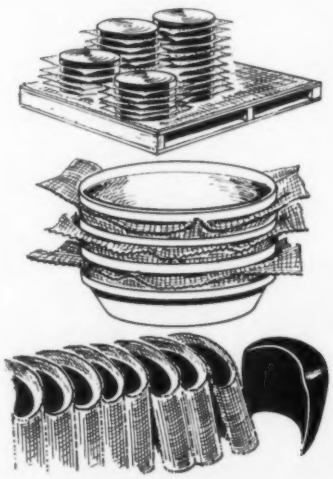
(Continued on Page 14)



here's an **INTERLEAVER** *with built-in* **"LIVE" CUSHIONING** *more protection...less cost*

Just touch this springy surface and you'll know why Sherm-A-Pak is the "live-cushioned" interleaver. Its resilient protection is forged permanently into every fiber under tremendous heat and pressure. Sherm-A-Pak replaces chipboard, molded pulp, double-face board, and other materials that have no "spring back" — delivers cushioning protection that stands up under rough handling.

You get Sherm-A-Pak's live-cushioned protection *without* penalties of bulk or weight. A single, lightweight sheet outperforms heavy "dead" interleavers and multiple wrappings — eliminates need to overpack against damage. Sherm-A-Pak's extra resiliency absorbs more blows and jolts; ends scratching, marring, chipping, abrasion. The ridged surface prevents slipping and shifting, too.



★ **WON'T FLATTEN OR WEAR** — Forged-fiber surface retains cushioning properties in transit. Can be used again, if desired, for even greater economy.

★ **CONFORMS TO ANY SHAPE** — Molds snugly to any contour. Lets you nest or stack parts more tightly. Reduces cube without sacrificing cushioning protection.

★ **EASIER AND FASTER TO USE** — Extra-pliable, soft, and easy to fold. Available in handy rolls, sheets, or special die-cut shapes.

★ **WON'T DISCOLOR METALS** — Available in sheets and rolls with low sulphur content and neutral pH for interleaving stainable metals. Also available waxed for use where moisture, condensation, or leakage would weaken conventional interleaving.

Your nearby Sherman distributor carries Sherm-A-Pak in nine standard weights for every interleaving need. For sample weights, at no obligation, write Dept. N.

Sherman PAPER PRODUCTS COMPANY
NEWTON 64, MASS. — CHICAGO — LOS ANGELES — SAN FRANCISCO — SEATTLE
DIVISION OF St. Regis PAPER COMPANY

Libby

LOOKS TO LYNCH ROBO-WRAP ... FOR 75 FROZEN VEGETABLE BAGS PER MINUTE

At Libby, McNeill & Libby's Grandview, Washington plant, a Model 211-V Lynch Robo-Wrap has been forming, filling (with special slide gate self-cleaning volumetric feeders designed for frozen foods by Lynch) and sealing 2½ mil low-density, 1½ lb. charge poly bags at a speed of 60 per minute . . . 16 to 24 hours a day . . . 5 days a week . . . for 1½ years.

But . . . Speed will be increased to 75 bags per minute when modification of sealing dies is completed. Robo-Wrap's exclusive hand-over-hand action makes these speeds possible.

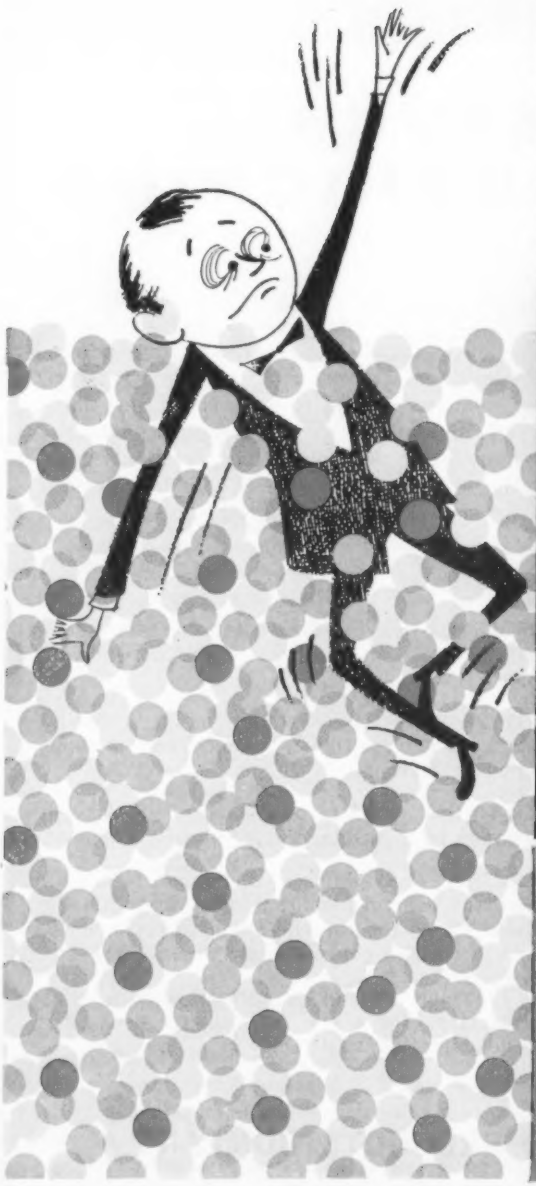
Lynch engineers ask that you consider this: when you *begin* with Robo-Wrap's basic excellence and versatility—you extend the earning life of your investment, protect against obsolescence, *and get increased production at the same time.*

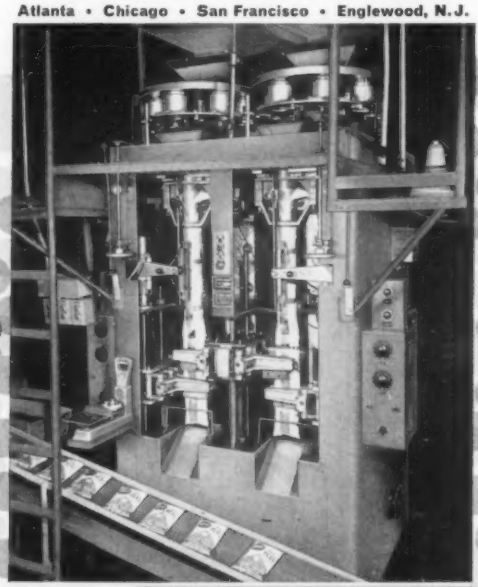
Whether you package liquids, powders, solids or granules . . . in poly, cello, PVA, plastic or laminate pillow packs . . . look to Lynch for automated systems that cut costs *all along the line.*

LEADERS LOOK TO LYNCH...

for machines that package almost everything.

Atlanta • Chicago • San Francisco • Englewood, N.J.





LYNCH
CORPORATION
Anderson, Indiana, U.S.A.

LARGE SIZE...
SMALL SIZE...
ANY SIZE...

Cleveland Containers are functionally designed to protect and "sell" your product . . . *and at low unit cost!*

Sturdily constructed of quality paperboard or transparent plastic, Cleveland Containers are made to specific product needs with: —

CLOSURES in many styles and diameters in metal, plastic and paper.

LINERS of parchment, glassine, aluminum foil or plastic film.

LABELS in a colorful selection of styles for brilliant display.

The services of our Packaging Engineers are available without charge.

CLEVELAND CONTAINERS INCREASE SALES

Illustrated above — These containers, ideally designed in 8- and 16-oz. sizes, for a powdered soap, have these built-in features: **1**—Sturdy fibreboard construction; **2**—Bright, waterproof aluminum foil label; **3**—Attractive, smooth-working plastic closure; **4**—Non-rusting, metal bottom; **5**—Perfectly sized for effective display, and handy use in the home and shop.

The new "DIAL-O-MATIC" closure! Made of plastic, the wheel smoothly glides and locks in 3 positions: close . . . pour . . . sift! Recessed rim permits lock-sure stacking. Available in several styles, diameters, and color combinations.

Write for our latest Packaging Brochure

THE
CLEVELAND CONTAINER
COMPANY

Plants and Sales Offices:
Cleveland
Chicago
Memphis
Dallas
Los Angeles
Plymouth, Wis.
Jamesburg, N. J.
Greensboro, N. C.

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

CLEVELAND CONTAINER CANADA, LIMITED
Plants & Sales Offices: Toronto & Prescott, Ont. • Sales Office: Montreal

Sales Offices:
Detroit
New York City
West Hartford
Rochester, N. Y
Washington, D.C
•
Abrasive Division at Cleveland

sial short-column crush test. This decision grew out of recent discussion among committee members in going over the second draft of the proposed commercial standard for corrugated fibreboard.

Committee members represent major industries and the Department of Defense. The sponsor of the committee is the Division of Packaging Research, U.S. FOREST PRODUCTS LABORATORY, *Madison, Wis. Meeting regularly, the committee is studying such problems as wet-strength treatments and double-wall box strength, as well as the short-column crush test.*

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS' packaging industry subcommittee hopes to develop standards usable as a base specification that can be used in part or *in toto* to describe machinery users' wants. Representatives from package users, electrical suppliers, and machinery manufacturers are now working on standardization procedures.

The NATIONAL PAPERBOARD and FIBRE BOX ASSOCIATIONS now have a joint national emergency headquarters ready to use in case of nuclear attack. Located on the Virginia farm of Albert W. Luhrs, executive manager of both associations, this underground headquarters has essential records and other association material as well as supplies and equipment for survival in emergency.

Other groups interested in improving their preparedness efforts and wanting information on defense and disaster planning may contact the Office of Industrial Mobilization, Business and Defense Services Administration, U.S. Department of Commerce, Washington 25, D.C.

Packaging across the seas:

PRD—PACKAGE RESEARCH AND DEVELOPMENT INTERNATIONAL—is a new organization of French and American packaging specialists. According to Pierre J. Louis, who heads it, PRD hopes to provide packaging evaluation and interpretation for top management. Its headquarters are at 67 Blvd. De Clichy, Paris 9, France. M. Louis also is director of the French Packaging Institute.

Japanese packagers are showing growing interest in paper, cellulose film, cloth, plastics, and combinations of these, and in pressure-sensitive tapes. Japanese-authored studies are also informing packaging people in Japan of current problems in bulky and semibulky liquid containers, metallized films, and cushioning.

Other Japanese reports indicate the growing development of self-service marketing and the rising expenditure for packages going into retail distribution.

The Japanese "cubic bottle" paper usage is expanding along with square paper bag production.

INLAND STEEL CONTAINER CO. and the VAN LEER group of container manufacturers now have a new steel container research center in Passfield, England. Its staff will include some 40 scientifically trained people plus 20 technical assistants.

DIAMOND NATIONAL CORP. *plans to build a molded pulp plant in West Germany. Diamond's subsidiary,* OMNI-PAC GMBH, *will operate the plant, located at Elsfleth near Bremen. It will produce a diversified line of molded pulp products primarily for prepackaged food on the Continent.*

Reports out of India (in *Perfectpac,* a journal published in Bombay) indicate that all is not well with the plastics industry in Russia. It seems that three Russian scientists have admitted, for example, the poor quality of Russian PVC, which has shown no improvement in 10 years. They say the material is not clear and transparent, has poor aging characteristics, and is just not very suitable for converting.

They attribute the poor quality to bad planning and the fact of the industry not being sufficiently modernized.

Meanwhile packaging propo-

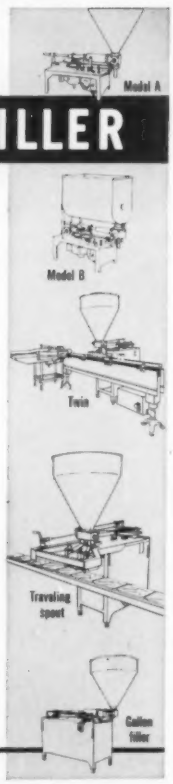
(Continued on Page 18)

Compact, inexpensive

SIMPLEX PISTON FILLER

for fast, accurate, low cost filling of liquids and semi-solids of varying consistencies.

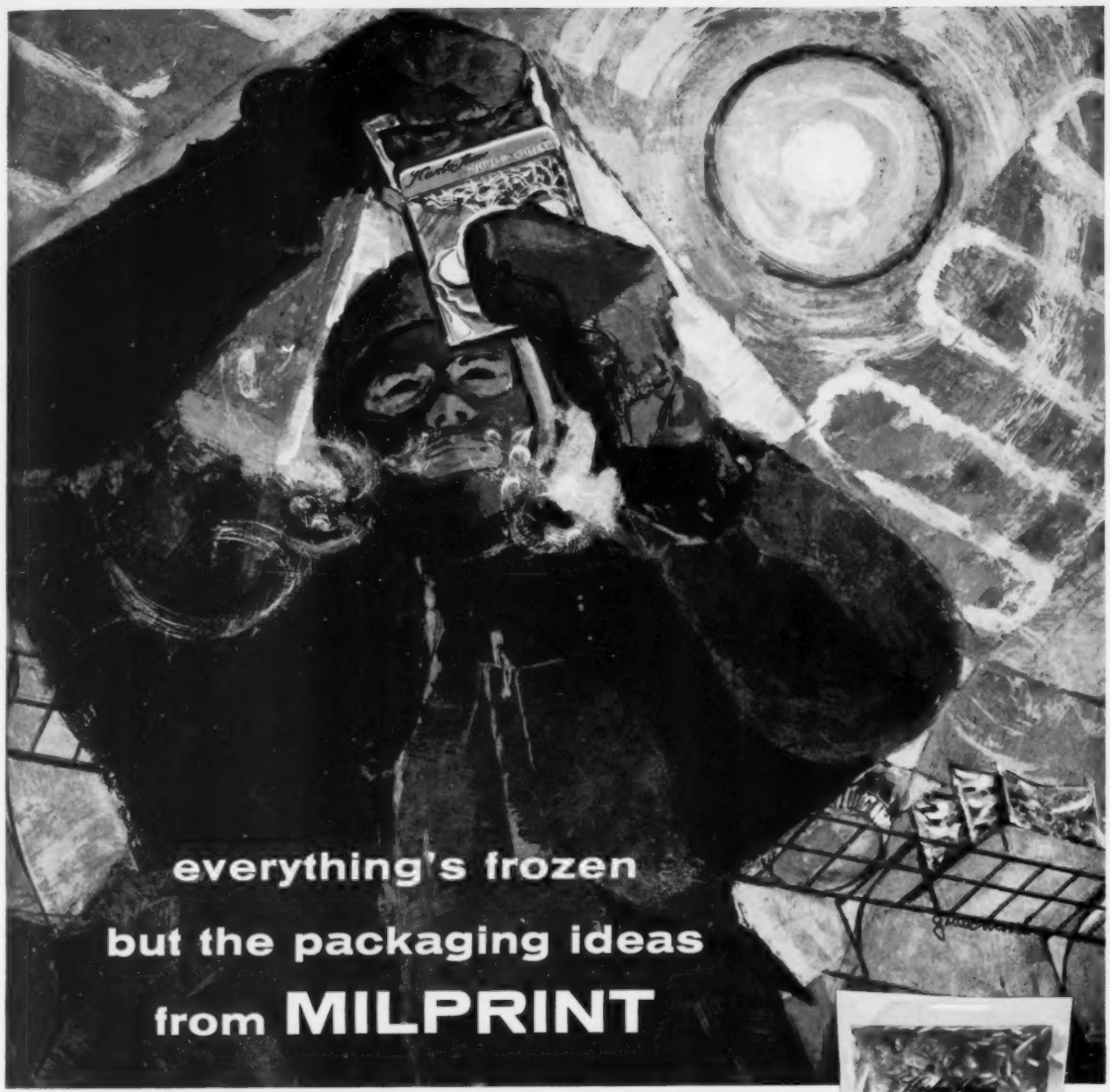
Simplex Model A fills 15 to 30 containers per minute from 1 oz. to 32 oz.



- REMARKABLY SIMPLE CONSTRUCTION—VIRTUALLY MAINTENANCE-FREE!
- EASILY CLEANED IN A FEW MINUTES!
- HAND LEVER CUTS OFF FLOW INSTANTANEOUSLY!
- DURABLE 316 STAINLESS STEEL IMPERVIOUS TO ACIDS!
- EVERY MODEL ENGINEERED TO CUSTOMER REQUIREMENTS FOR GIVEN RANGE OF OPERATIONS!

Write for prices and Bulletin 106 • Representatives in all principle areas

Mfg. by **F. L. BURT CO.** 1144 Howard St., San Francisco, Calif.



Now...a boil-in-pouch that works! From Milprint's dynamic research comes the first completely successful pouch for the fast-growing boil-in package field: new KETTLE-REDI pouches by Milprint!

Kettle-Redi's superior lamination stands up under temperature extremes from boiling to 50° below without cracking or leaking . . . remains unaffected by any combination of thermal and chemical factors . . . resists scuffing and tearing . . . offers excellent machineability plus exclusive "locked in" reverse printing that defies age or handling — lifelike flexographic or rotogravure printing that stays better looking at the point of sale!

Call Milprint now for information on Kettle-Redi pouches for cook-in applications!

MILPRINT PACKAGING *gives your product* MARKETING POWER

KETTLE-REDI is a Milprint trademark.

Milprint, Inc. General Offices, Milwaukee, Wis. Sales Offices and plants conveniently located across the nation.

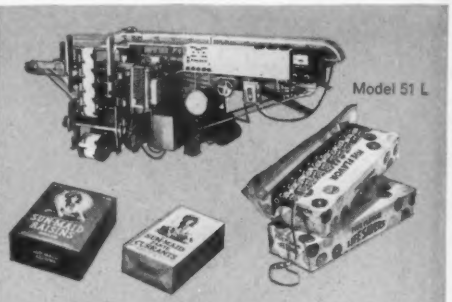
For more information circle No. 212 on Reader Service Card

BATTLE CREEK'S MODEL 51 SERIES PROVIDES

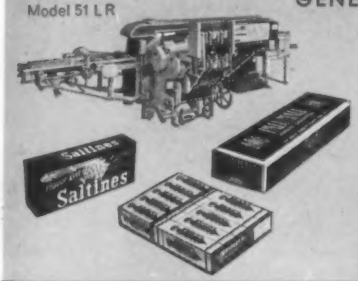
SPEED WHEN SPEED COUNTS!

Here are six Model 51 machines "tailored" to solve individual packaging problems created by the inherent nature of the product, the high speed demands of prior processing equipment and the need for impelling product sales appeal. One of these models is best suited to precision package your product neatly, tightly in heat-sealing cellophane, laminated papers, wax-coated papers or heat-sealing foils. Each model has the same universal "Continuous Flow" characteristics which offer dramatic labor saving advantages and unique operating economies. All are ideal for long production runs of products within these size ranges: 3¼"—5½" long or 6"—11" long, 2½"—4¼" wide and ¾"—2¼" high. Inquire today about the Model 51 series and discover what Battle Creek Packaging Machines can do for you.

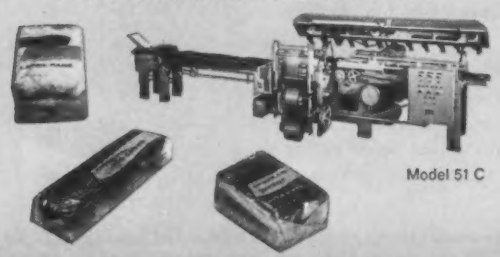
eliminate frustrating production bottlenecks with overwraps of 120 to 240 per minute



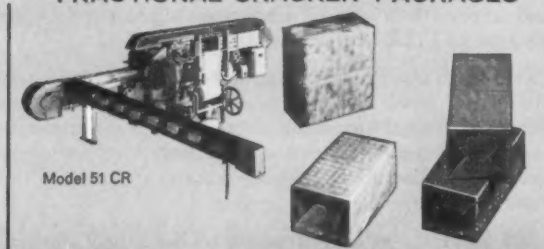
GENERAL RECTANGULAR APPLICATIONS



SOFT IRREGULAR PRODUCTS



FRACTIONAL CRACKER PACKAGES



Continuous Flow® PACKAGING

BATTLE CREEK *packaging machines, inc.*, BATTLE CREEK, MICH.

For more information circle No. 213 on Reader Service Card

Circle No. 214 on Card ►

PROBLEM: How to get sales appeal in your shipping container without the cost of three-color printing.

SOLUTION: International Paper's new *pastel* Gator-Hide® linerboard gives you *three* colors with two-color printing.

THIS DISPLAY container was made with two-color printing—on one of International Paper's new Gator-Hide pastel linerboards.

These amazing new linerboards are the lightest and brightest you can get without printing color on expensive bleached board.

They are typical of the wide range of fine linerboards available to you in the famous Gator-Hide series. Their purpose: *better* packaging at *lower* cost.

Other examples include non-abrasive boards, release-coated boards, weather- and slip-resistant boards and highly printable coated linerboards.

But our work goes beyond the creation of new boards. Packaging experts in our Container Division study the special needs of *your* product. They start with the best materials for the job. And then turn them into rugged—yet lightweight—shipping containers that deliver your product in *top selling condition* at minimum cost.

International Paper can provide you with paper packaging that is designed *—from the very beginning—*to suit your product.

Call any one of our twenty-two Container Division plants. Or contact your boxmaker. He has probably been doing business with us for years.

INTERNATIONAL PAPER

NEW YORK 17, N.Y.

Manufacturers of papers for magazines, books, newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • labels • folding cartons • milk containers • shipping containers • multiwall bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials

nents in India hope that the food minister to the government of India takes an interest in the technical as well as the economic aspects of food. They remind him it is going to take packaging *to make the fruits of the Himalayan valleys available to the people of Madras or to get the sardines of the Malabar Coast to residents of central India.*

More expansion for packaging:

TRONOMATIC CORP. has acquired DYNATECH PRODUCTS, INC. and an exclusive license for a patent-pending process for electronic high-frequency molding of expandable polystyrene.

The recently organized KEY PACKAGING & ENGINEERING CO., Bala-Cynwyd, Pa., will manufacture flexible film automatic packaging machinery.

DIAMOND NATIONAL CORP. *is now operating from its new 24-story headquarters in Manhattan.*

MARATHON DIV., AMERICAN CAN CO., is building a pilot plant at Menasha, Wis. The plant will house laboratories and small-scale machinery to aid in developing new products and processes and improve existing ones.

A new division of LERMER PLASTICS, INC. will manufacture semi-rigid acetate containers.

KEYES FIBRE CO. *has broken ground for its new pulp molding plant in Sacramento, Calif. Manufacturing operations are scheduled to begin by mid-1962.*

AIR FORMED PRODUCTS CORP., a subsidiary of BEMIS BRO. BAG CO., has expanded its facilities for the custom blow-molding of low- and high-density polyethylene.

THE WALTER FRANK ORGANIZATION has added 8,000 sq. ft. to its main office and plant in Hillside, Ill.

The new Victoria, Tex. polyethylene plant of E. I. DU PONT DE NEMOURS & CO. (INC.) *is now in full commercial production.*

What people are doing:

JOSEPH F. HANLON is now manager of packaging engineering for Lehn & Fink Products Corp. Formerly he was manager of package development for American Cyanamid Co.

S. C. Johnson & Son, Inc. has named MELVIN F. PFINGSTEN to the new post of production packaging engineer in the industrial engineering department.

The newly created position of national account executive for General Box Co. will be filled by OLIVER T. SANDS. *Mr. Sands was previously with Sears, Roebuck and Co.*

EARL K. SPOTTS is now general production manager of Arnold Bakers, Inc., Port Chester, N.Y.

Management appointments for Crown Zellerbach Corp.'s new flexible packaging center near St. Louis are: BERRY L. DILLON, resident manager; ROBERT R. JORGENSEN, assistant resident manager; CARL W. SIPPEL, sales manager. Four assistant sales managers are: GORDON M. BRUCE, frozen food and meat products; Z. W. FISHER, bakery packaging; RICHARD F. DUNBROOK, specialty packaging; and ROBERT J. WORTHINGTON, dairy and industrial packaging.

GEORGE PIEHLER *has joined International Ultrasonics, Inc. as chief mechanical designer. He was previously a project engineer with Champlain Co.*

WILLIAM E. MARKS is now manager of the box tape division of St. Regis Paper Co.'s Gummed Products Co. Div.

CLIFFORD F. HOLTKAMP, former president of Kamp Co. Inc., has joined Stone Container Corp. as general manager of its Cincinnati carton manufacturing plant.

Permacel has promoted G. KENNETH CHAMBERS *to product manager, foil and packaging tapes.*

The Kordite Co. announces two new plant managers: GEORGE L. FEARNLEY, JR. will manage the new plastics manufacturing facilities in Tyler, Tex., and MELVIN S. CAGEN succeeds him as plant manager in Macedon, N.Y.

GILBERT R. SHOCKLEY is now general director, product development division, Reynolds Metals Co. *(End)*

PERKINS model A-H
MULLEN BURST TESTER for SHIPPING CONTAINERS

Equipped with hydraulic powered clamp to indicate and automatically control the desired amount of clamping pressure to insure reproducible results.

Conforms to Rule 41 of the Consolidated (Railroad) Classification Committee for Shipping Containers. Other standard models also available. Write for details and prices.

B. F. PERKINS & SON, Inc.
TESTER DIVISION • BOX 388
HOLYOKE, MASSACHUSETTS • U.S.A.

your GAYLORD man is a corrugated connoisseur

He has the knowledge and experience to give you sound advice about the type of corrugated or solid fibre board that bests suits your packaging situation.

He probably can suggest several ready-made answers to the container question foremost in your mind right now. After you make your choice, Gaylord tailors your box from a practically unlimited range of board.

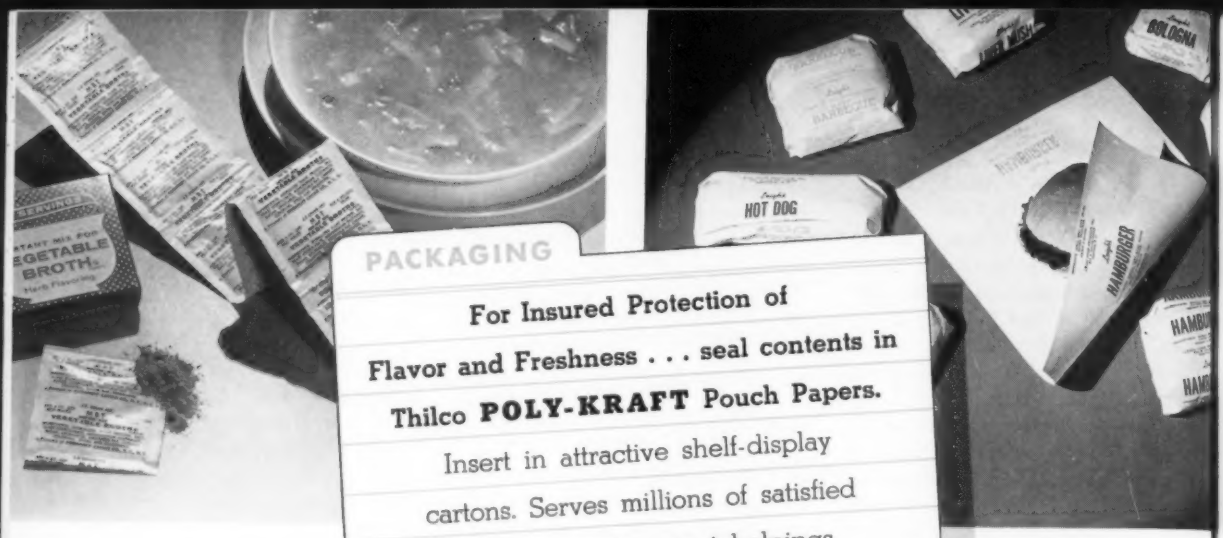
Stop wondering if your packaging is practical. Call your nearby Gaylord Man now and find out!

CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION

IN CANADA • CROWN ZELLERBACH CANADA, LTD. VANCOUVER, B. C.

HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

For more information circle No. 216 on Reader Service Card



PACKAGING

For Insured Protection of Flavor and Freshness . . . seal contents in Thilco **POLY-KRAFT** Pouch Papers. Insert in attractive shelf-display cartons. Serves millions of satisfied customers with repeat helpings.

One Protective Ingredient Important to All!

Vital to protecting the savory flavor and freshness of these popular food products in Thilco's versatile, heat sealable POLY-KRAFT Pouch Papers — the packaging ingredient that safeguards products from M.V.T. deterioration by sealing moisture-vapor *in* or *out* where you want it!

Like many *foods* of distinctive flavor and quality, Thilco POLY-KRAFT is not a single, ordinary compound, but a blend of special treated ingredient papers combined with poly, foil, cellophane, glassine and other papers or materials to best fulfill the most individual protective appetities your products may hunger for.

Thilco POLY-KRAFT is available in lightweight blends for automatic Pouch Packaging, box liners and bags, or, in heavyweight blends for bulk packaging and carton overwraps. Furnished in rolls for automatic forming/filling machines — in cut size sheets—or in ready-made paste, glue or heat-sealable bags.

For one of the lowest cost, *unexcelled* M.V.T. protective packaging ingredient you can buy, consult with us for name of the Thilco POLY-KRAFT representative best located to serve you.

FREE SAMPLE KIT –
Provides Complete Information

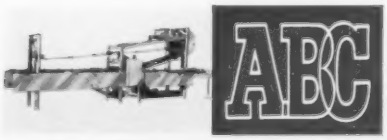
THILMANY PULP & PAPER CO. • KAUKAUNA, WISCONSIN

NEW YORK • CHICAGO • DETROIT • BOSTON • PHILADELPHIA • CINCINNATI • KANSAS CITY

THILCO
Functional Papers

unscrambled

Unscrambling odd-shaped jars get you jumpy? Unscrambling bottles give you butterfingers? Buy your A-B-C Case Unloader and Unscrambler. It can handle more bottles than a million eager-beaver milkmen. Requires no operator, cuts costs. Reduces breakage, too. Want to know more? Contact us. Right now. *Scramble!*



CASE UNLOADER AND UNSCRAMBLER

A-B-C PACKAGING MACHINE CORPORATION
P.O. Box 1146, Clearwater, Florida

Du Pont cellophane makes news . . .

In one year, 19 new cellophanes for new packaging needs!

Still more cellophanes from Du Pont research—to meet new, ever-changing packaging needs. Today, packagers can choose from over 100 Du Pont cellophanes! Each one is sparkling-clear. Each one prints beautifully. Each one gives maximum efficiency. Yet—there are important differences. WVT rates vary. So does durability. Some seal at temperatures 50° F. less than previously. Some are polymer-coated, extra-tough. Some are ideal substrates.

The point is: Du Pont cellophane is many, many films. Different coatings give different properties, make each cellophane a different film. Right now, there are over 100. And we have many more in the works.

Have you checked lately? There's a good chance you'll find a special Du Pont cellophane that will give you better, more protective packaging at lower cost. Call your Du Pont Representative or Authorized Converter. Du Pont Co., Film Department, Wilmington 98, Delaware.

DU PONT

DU PONT cellophane

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

4 COMMON·PROBLEMS IN MAKING WAXED GLASSINE BAGS

(and how the Arabol man helps you solve them)

1. THE BAG IS ODORIFEROUS—All right, it *smells*. An unpleasant situation, especially when the bag is used for packaging foods. If the adhesive is at fault, it's because the solvent is evaporating too slowly, leaving a residual odor. The solution? A fast-penetrating, quick-evaporating solvent system. The Arabol man will see that you get it.

2. THE ADHESIVE WON'T STICK—This may be due to an abnormally heavy coating of wax on the bag. Or a coating that has been modified for greater protection. The Arabol man may investigate: (1) How you're applying heat; (2) Ditto the adhesive; (3) Whether the wetting properties of the adhesive need improving; or (4) Whether you should switch to a suction type adhesive.

3. THE ADHESIVE IS SLOW DRYING—What happens when drying time is lengthened? Deliveries fall behind and customers become impatient. The problem can usually be traced to solvents or plasticizers that evaporate too slowly. Possibly, the use of a suction type adhesive is indicated. But why guess? The Arabol man is at your service. Call on him.

4. THE ADHESIVE "FILMS" TOO FAST—This can play havoc with your production. Lumps form on the roller, causing breaks in the paper roll. Or they may even be deposited on the glassine surface. Controlling bag quality becomes difficult and time and production losses mount. A *slow*-filming adhesive could pull you out. See the Arabol man.

THE BEST WAY to solve adhesive problems is to prevent them from happening. You can begin by telling us *all* the conditions your adhesive must meet—in your plant, in transit and after it reaches your customer. To help you understand these conditions more fully, we have prepared an interesting booklet that can save you no end of aggravation—and money. It's called "HOW TO BUY ADHESIVES—23 BASIC YARDSTICKS." Send for it today.

ARABOL ADHESIVES

14 PLANTS AND WAREHOUSES TO SERVE YOU ON A LOCAL BASIS

THE ARABOL MFG. CO., 110 EAST 42ND STREET, NEW YORK 17, N. Y. • CHICAGO • SAN FRANCISCO LOS ANGELES • ST. LOUIS • ATLANTA • PHILADELPHIA • BOSTON • PORTLAND, ORE. • ITASCA AND McALLEN, TEX. • CINCINNATI • DENVER • TAMPA • LONDON, ENG.

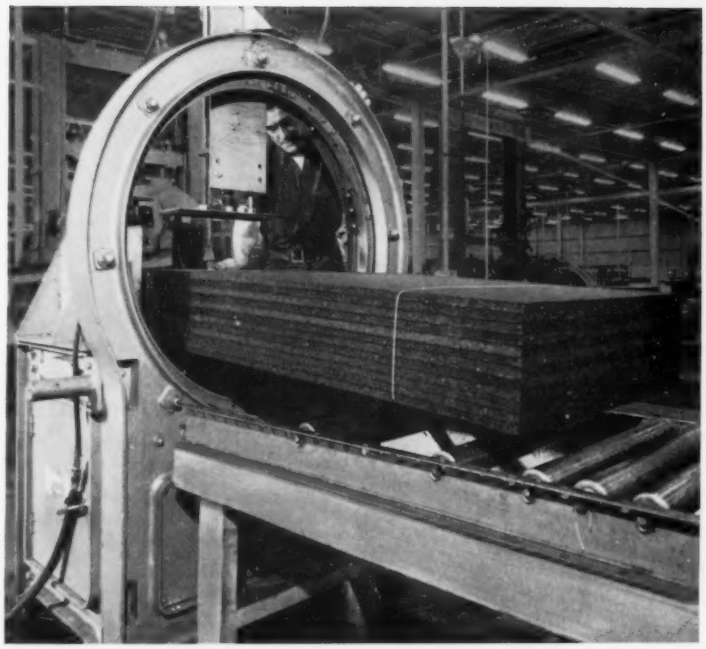
IT'S BOUND TO BE BETTER WITH USS STEEL STRAPPING

Model 12 straps 240 of these 2′x4′ packages in an hour!

At Celotex, the automatic Model 12 wraps each 6-unit fiberboard bundle twice with strong 18-gauge USS Round Steel Strapping. It handles various size bundles without adjustment. The Model 12 takes only 7½ sq. ft. of floor space and it weighs only 1300 pounds.

The Model 12 also speeds production at Celotex. "Before we switched to automatic strapping, we handled our fiberboard bundles at least 4 times between production line and shipping dock," says Mr. F. J. Alfeis, Work Manager at the L'Anse, Michigan plant. "Since we installed the automatic USS Round Steel Strapping machine, our bundles are compactly wrapped, palletized, and moved by fork-lift truck directly to outside carriers in one simple operation."

Find out how the Model 12 can help your product cost less to handle, store, ship, and receive. See our new industrial film showing many possible applications for the Model 12. Send the coupon.



U. S. Steel Supply
Division of
United States Steel

USS
TRADEMARK

U. S. Steel Supply
U. S. Steel Corporation
208 South LaSalle Street
Chicago 4, Illinois

☐ Please send me more information on the automatic Model 12 Strapping Machine.
☐ Please send me your Model 12 film, "Tie This."

Name _____

Company _____

Address _____

City _____ Zone ____ State _____

For more information circle No. 221 on Reader Service Card

SILICONE NEWS from Dow Corning

Stop sticking / start saving

Syl-off coated papers speed unpacking, simplify handling of sticky products

Recognize this problem? The product sticks. So does production. Handling costs go up. Lost time and product waste run high. If this is a problem to you, it needn't be.

Here's a solution. Specify packaging and processing papers coated with a Syl-off® silicone release coating. Even the toughest stickers—asphalt, adhesives, dried fruit, plastic bases, polyurethane, raw rubber—come away cleanly and quickly from all types of containers and process papers coated with Syl-off. Nonmigrating and noncontaminating, these anti-adhesive silicone coatings aid processors in removing all the product, keep production moving smoothly, and hold product waste to a minimum.

More uses. Pressure-sensitive decals, labels, decorative trims and wallpapers peel free in a flash from Syl-off coated separators — no tearing or shredding. Pan liners and wrappers coated with food grade Syl-off coatings are used in contact with sticky baked goods and other foods in compliance with provisions of the Food Additives Amendment of 1958.

You benefit. Whether you buy, ship, or handle sticky products during your process operations, there's a Syl-off coated paper to solve your sticking problems . . . produce extra profits. Investigate now.

For detailed data plus a list of sources of Syl-off coated papers, write Dow Corning Corporation, Dept. 9020, Midland, Mich.

first in silicones

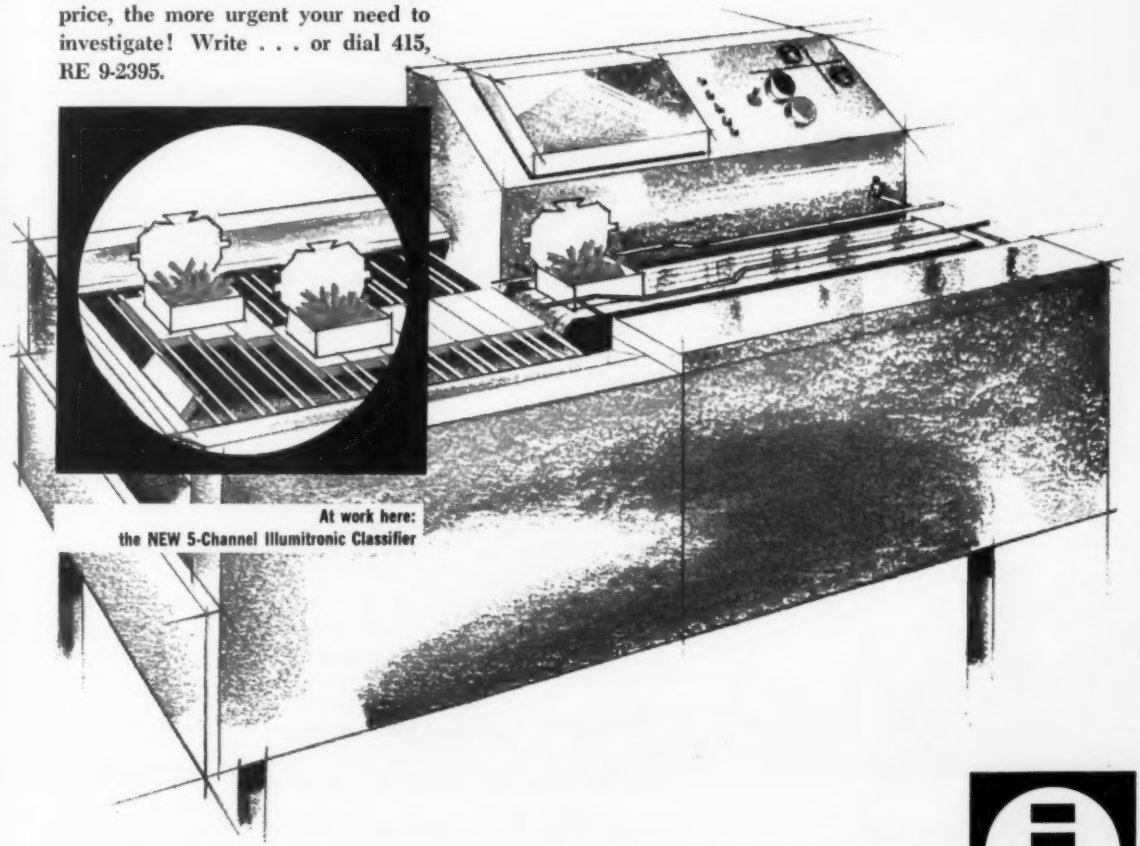
Dow Corning

Automatic Weighing IN MOTION with a 5-way split!

Let's penetrate to the point:

- If you're using halt-and-hurry hand weighing methods
- shrugging off over-weight give-away
- averaging out on case lots
- spot checking automatic fill by hand

it's time to investigate the split second solutions offered by 2, 3, 4, and 5-Way Illumitronic Classifiers and Monitors. Package weights to 10 pounds; continuous flow speeds to 300 per minute. Accuracy ±1/32 of an ounce; range adjustable from 1/10 of 1 ounce to 2 ounces. If the economy of uniformity interests you, let's discuss *which* of our machines can pay its way into your line. The lower your package price, the more urgent your need to investigate! Write . . . or dial 415, RE 9-2395.

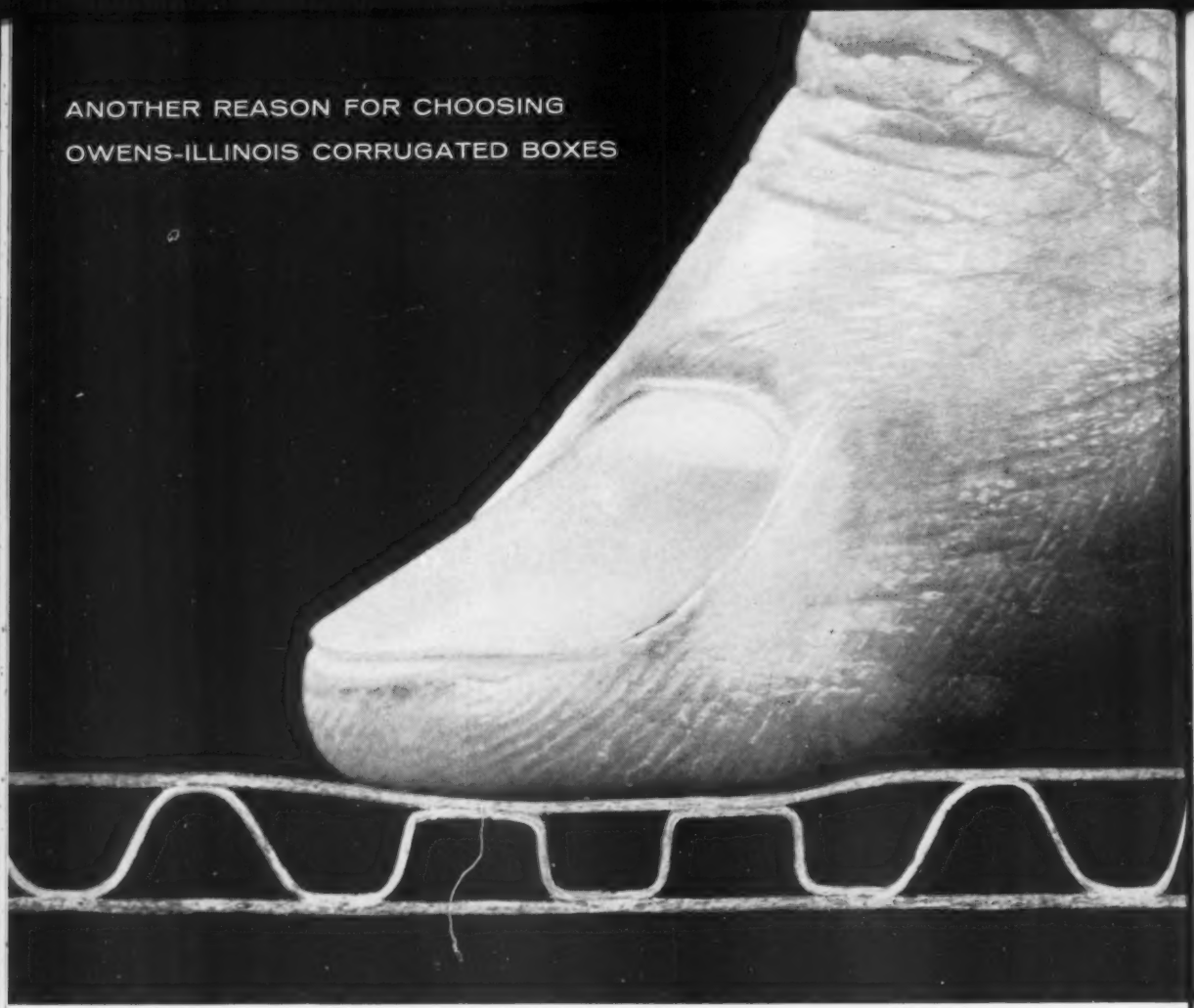


At work here:
the NEW 5-Channel Illumitronic Classifier

illumitronic systems corporation

680 EAST TAYLOR • SUNNYVALE, CALIFORNIA

For more information circle No. 223 on Reader Service Card



MR. STRONGBOX

How Owens-Illinois put more muscle in its corrugated boxes

OCALIZED SERVICE FROM:

lanta, Ga.	Long Island City, N. Y.
rora, Ind.	Los Angeles, Calif.*
adford, Pa.	Madison, Ill.
istol, Pa.	Memphis, Tenn.
icago, Ill.	Mercedes, Texas
llas, Texas	Miami, Fla.
troit, Mich.	Milwaukee, Wis.
nt, Mich.	Minneapolis, Minn.
cksonville, Fla.	Newark, N. J.
nsas City, Mo.	Oakland, Calif.*
Salisbury, N. C.	

*These plants are operated by National Container Corporation of California, subsidiary of Owens-Illinois.

After five years of research, Owens-Illinois has redesigned C-flute, a standard corrugated arch, to make it stronger than any previously available.

For corrugated-box users, this new C-flute means: 1) greater protection of your product because of increased resistance to crushing, 2) a more rigid board, 3) more positive folding during assembly, and 4) fewer high and low areas, resulting in better printing.

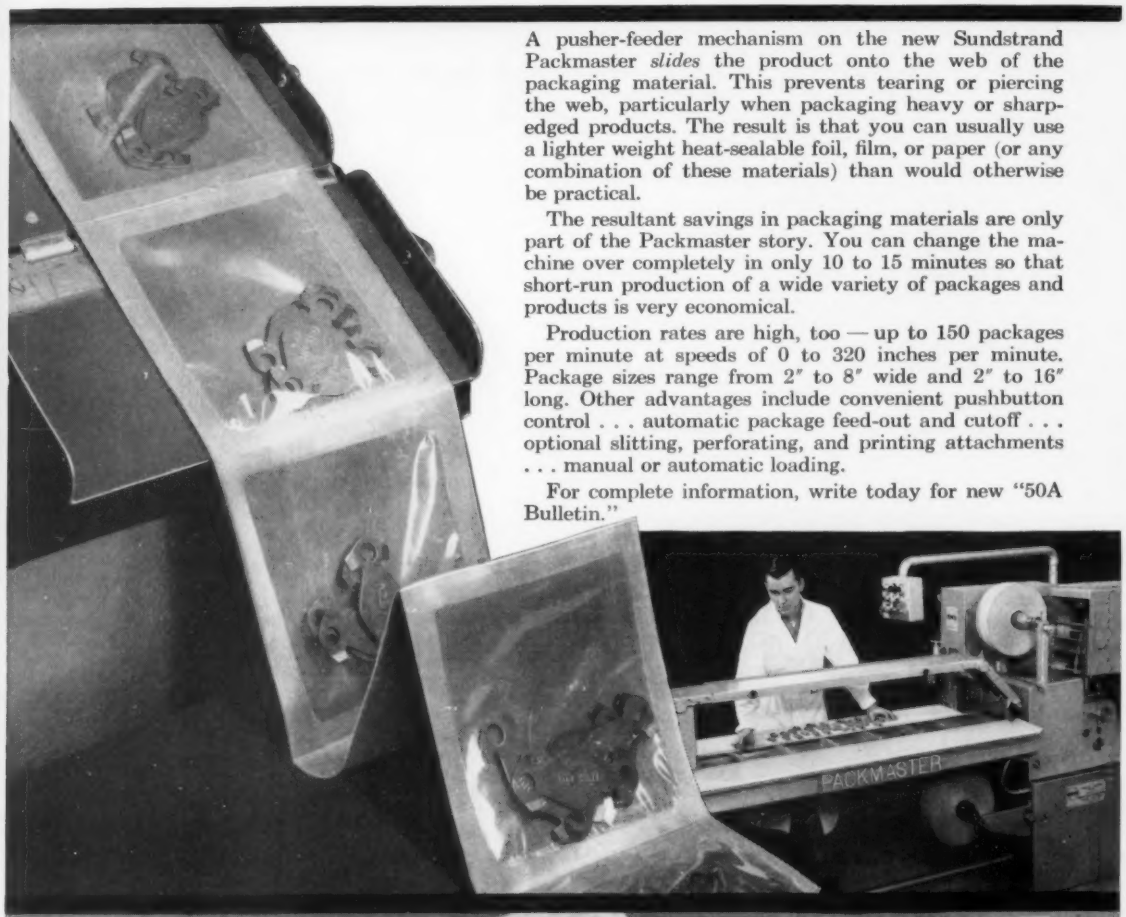
Secret of the new C-flute is a structural change in the corrugated arch which gives it substantially greater flat-crush strength. Result: a better box at no extra cost to the user!

Let us talk to you about how C-flute can benefit *you*.

PAPER PRODUCTS DIVISION
FORMERLY NATIONAL CONTAINER

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

Get lighter weight, lower cost packages — from a Sundstrand Model 50A Packmaster with pusher feeder



A pusher-feeder mechanism on the new Sundstrand Packmaster *slides* the product onto the web of the packaging material. This prevents tearing or piercing the web, particularly when packaging heavy or sharp-edged products. The result is that you can usually use a lighter weight heat-sealable foil, film, or paper (or any combination of these materials) than would otherwise be practical.

The resultant savings in packaging materials are only part of the Packmaster story. You can change the machine over completely in only 10 to 15 minutes so that short-run production of a wide variety of packages and products is very economical.

Production rates are high, too — up to 150 packages per minute at speeds of 0 to 320 inches per minute. Package sizes range from 2″ to 8″ wide and 2″ to 16″ long. Other advantages include convenient pushbutton control . . . automatic package feed-out and cutoff . . . optional slitting, perforating, and printing attachments . . . manual or automatic loading.

For complete information, write today for new "50A Bulletin."

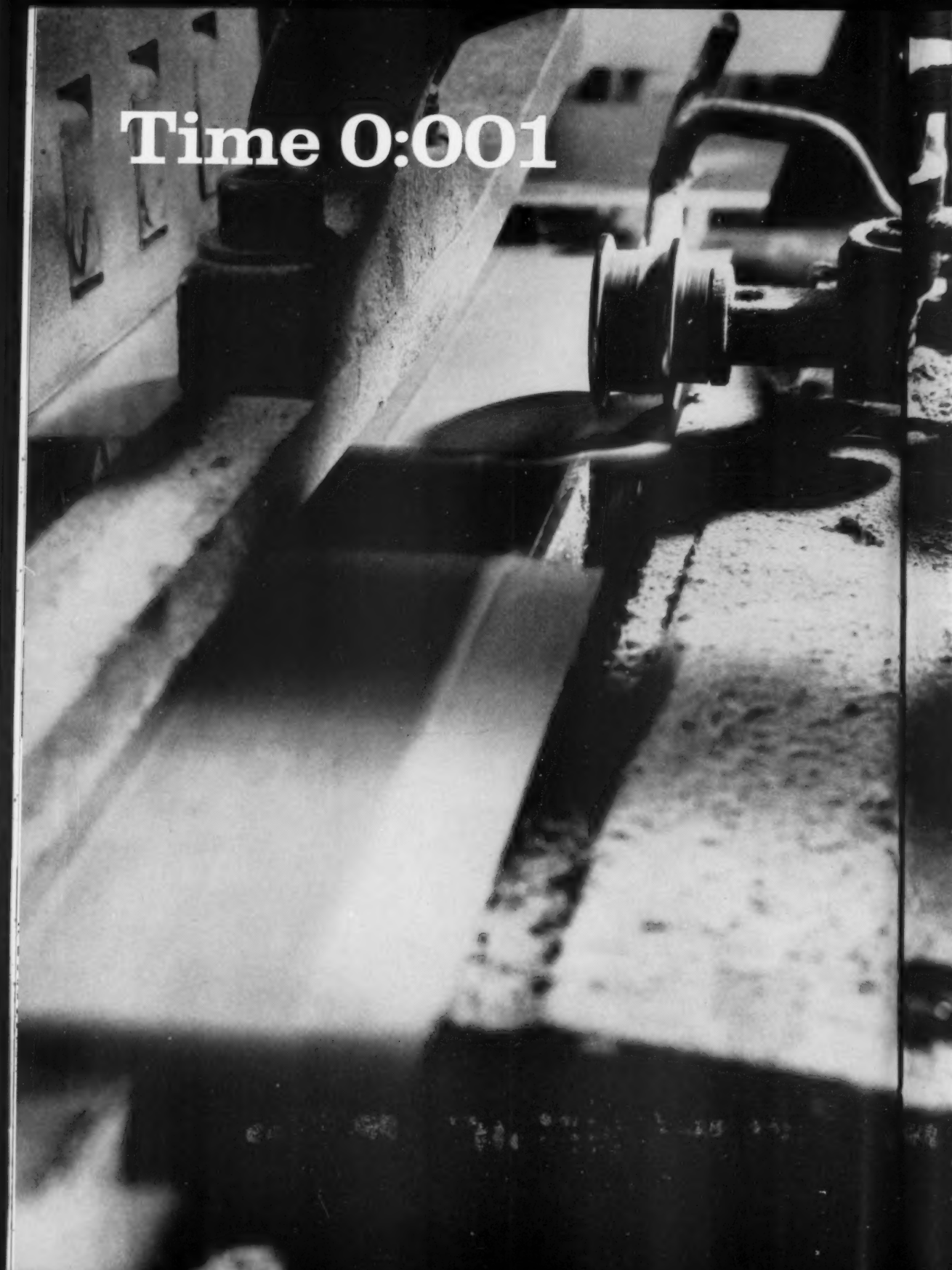
SUNDSTRAND

SUNDSTRAND PACKMASTER Product of

SUNDSTRAND-AMERICAN BROACH

ANN ARBOR, MICHIGAN • Division of Sundstrand Corporation

For more information circle No. 225 on Reader Service Card


Time 0:001

Seconds that count in packaging efficiency

Higher and higher production rates. More than 100,000 units per hour. Even in a thousandth of a second, the camera couldn't quite stop the gluing action on this high-speed folding carton line.

In high volume operations like this, every increase in efficiency grows big returns. And, adhesives may present a bigger opportunity than you think. A special formulation, keyed to your exact operating requirements can give you better mileage, cut down-time, extend the range of paper stocks you process.

Expert technological help in getting more out of your materials and machines is no problem when you call on Armour. As a leading package user and manufacturer of adhesives, Armour knows adhesives from both ends. For instance, many of Armour's advanced formulations were developed specifically to increase the efficiency of high-speed packaging machinery.

Take the time to contact an Armour Adhesives Specialist. He'll show you specific ways to make the seconds count for more in your packaging efficiency.

Contact him direct or our sales headquarters. Armour Alliance Industries. Adhesives Division, Alliance, Ohio.

FREE
16 PAGE ADHESIVES APPLICATIONS GUIDE

Armour's new Packaging and Paper Converting Adhesives Catalog is packed with new information that will help you get more out of your Adhesives dollar. Clearly organized by type of packaging and paper converting operation, this new technical bulletin includes the latest operating data as well as comprehensive physical and chemical properties.

Mail this today!
Armour Alliance Industries
16123 Armour Street, N.E., Alliance, Ohio
Gentlemen: Please send me a copy of Armour's "Packaging and Paper Converting Adhesives." (PE)

Name_____

Title_____

Company_____

Street_____

City_____ Zone____ State_____

ADHESIVES DIVISION
ARMOUR ALLIANCE INDUSTRIES

For more information circle No. 226 on Reader Service Card

THERMOFORMING

WITH CELANESE ACETATE

SALES TOOL OF THE SIXTIES

AVAILABLE NOW!

Latest information on the blister and skin packaging process

Newly published 24-page manual tells the story of thermoforming with special emphasis on packaging applications: Blister Packs, Skin Packaging, Formed Containers, etc. It is fully illustrated and contains up-to-the-minute information on acetate sheet formulations, mold construction, molding techniques, die cutting, printing, package sealing, and forming and packaging machinery.

Also included is a bulletin covering the more technical aspects of thermoforming. Return coupon to get your copy.

Celanese Plastics Company, Dept. 105-H
744 Broad Street, Newark 2, N. J.

Gentlemen: Send me (free) a copy of The Celanese Thermoforming Manual and technical bulletin.

Name_____

Title_____

Company_____

Street_____

City_____ State_____

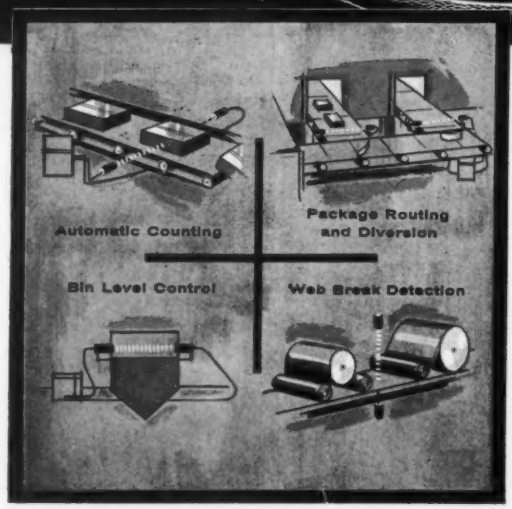
Celanese®

MATERIALS FOR Celanese MODERN PACKAGING

POLYETHYLENE FILM . . . ACETATE FILM AND SHEETING . . . PLASTIC CONTAINERS

Celanese Plastics Company is a Division of Celanese Corporation of America • Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver • Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 522 Fifth Avenue, N.Y. 36

a new dimension in automated controls



SONAC ULTRASONIC,

NON-CONTACT SENSING AND SWITCHING SYSTEM

Before Sonac, sensing and switching control systems which involved breaking a beam of energy were limited by vibration, dust, smoke, steam, air contamination and too much or too little light. Sonac's ultrasonic energy "beam" is completely free of these limitations. The acoustic lens on Sonac sensors can actually be painted without affecting performance. Utilizing high frequency sound also means there are no lamps to burn out. Savings in replacement parts and maintenance time often means Sonac pays for itself. Sonac is completely transistorized, providing you with a rugged, dependable electronic circuit.

These are just a few of Sonac's many uses. Optional equipment includes reflectors for precision beam and positioning control, and coupler assemblies for use with flexible tubing for remote sensor locations. This descriptive booklet will be sent to you on request.

DELAVAN
Manufacturing Company
WEST DES MOINES • IOWA

BLUE RIBBON WITH HIGH SPEED RENACEL-100 ADHESIVE WETS OUT FASTER, TACKS QUICKER, BONDS MORE PERMANENTLY TO CARTONS THAN ANY OTHER SUPER STANDARD TAPE EVER MADE. IT IS ODORLESS AND COLDPROOF TOO. IN YOUR PACKAGING OPERATION BLUE RIBBON CAN MEAN LOWER LABOR COSTS, INCREASED PRODUCTION, GREATER SAFETY IN TRANSIT. **BUT CLAIMS ARE NOT PROOF!** ■ HUDSON OFFERS YOU THE OPPORTUNITY TO EVALUATE BLUE RIBBON PERFORMANCE BY TESTING 6000 FEET OF TAPE OR ONE FULL ROLL (600') ACCORDING TO YOUR SHIPPING ROOM VOLUME.

PROVE NEW BLUE RIBBON

OUTPERFORMS ALL SUPER TAPES

TEST FREE 600 TO 6000

FEET ON YOUR PRODUCTION LINE

Hudson Pulp & Paper Corp. BR-P-8
477 Madison Avenue, New York 22, N. Y.

Gentlemen:
We would like to test Blue Ribbon super standard tape with new RENACEL-100 adhesive. Based on the information below supply FREE test quantity at once.

Products Packaged _____

Carton Sizes _____

Average Monthly Carton Shipments _____

Brand of Present Tape Used _____

Your Name _____ Title _____

Company _____

Address _____ City _____ State _____

BLUE RIBBON SUPER STANDARD WITH NEW RENACEL-100 ADHESIVE is a product of HUDSON PULP & PAPER CORP. . . . for over 30 years the leader in quality branded gummed sealing tape.

PROVE NEW BLUE RIBBON PERFORMANCE IS BETTER THAN THE CLAIM. WRITE FOR YOUR TEST PROGRAM SUPPLY.

HUDSON
PULP & PAPER CORP.

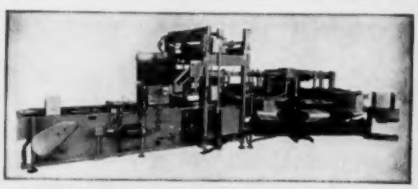
For more information circle No. 229 on Reader Service Card

Circle No. 230 on Card ►

What?

Feed all these different sized cases, in random order, into one automatic case sealing installation?

Yes! It's being done. The Omnimatic-Rotopress automatically seals and discharges corrugated shipping containers of widely varying dimensions, fed to it in random order, at speeds up to 20 cases per minute. A choice of pre-set discharge patterns permits the simultaneous use of as many as five different Rotopress discharge stations, with sealed cases of different heights automatically discharged to separate take-away conveyors. Employing a unique circular compression unit, the entire installation occupies only 144.9 square feet, and permits random feeding of cases that may vary in length from 8″ to 30″ in width from 6″ to 22″ and in height from 6″ to 18″.



Packomatic Omnimatic-Rotopress operating at the General Electric Company's Trumbull Lamp Plant at Warren, Ohio.

WRITE for 8 page technical brochure giving complete design, application and dimension data. Request Packomatic Brochure 100-60.

Packomatic®

T.M. Reg. U.S. Pat. Off.

TEXTILE MACHINE WORKS
READING, PA.

How Union-Camp's 5-Star Plan saved multiwall user up to $450 per carload of bags

This is a new kind of "Big-Inch" story.

A major mid-west packer* wasn't convinced his multiwall bagging operation was all it might be. Could Union-Camp's 5-Star Multiwall Plan help?

To get the answer, Union-Camp multiwall specialists visited the plant. They found that the automatically filled bags occasionally stuck in the sewing head. Also, that the sewing line tended to "belly" and form an arc pattern. The result was considerable loss in production and frequent breakage. Another problem—the bags didn't warehouse well.

"Sew-Straight" Solution

After completing their analysis, the Union-Camp men suggested installing a "Sew-Straight" attachment right onto the sewing head. The bags could now be closed with an "E" head in a perfectly straight line. And only *1 inch* from the top of the bag. That single inch made all the difference.

Less paper—less breakage

To begin with, shorter bags could be used. The savings in paper alone cut the firm's multiwall costs from between $350 to $450 a carload. Imagine the savings based on several dozen carloads a year!

Before and After. Old, semi-circular closure pattern (left) and the new closure (arrow). Note the straight sewing line, and how close it is to the top of the bag.

The new attachment also speeded production by eliminating sewing head jam-ups. Moreover, since the top closure is now identical to the *factory-sewn* bottom closure, the bags form a perfect pillow shape—no awkward ears. This makes them easier to handle . . . easier to stack. And there's less breakage and fewer rejects.

How much could you save?

Perhaps an idea unearthed through Union-Camp's 5-Star Plan could save you money. The chances are excellent. For every day, multiwall users, large and small, are reducing their multiwall costs by capitalizing on this comprehensive packaging service. Their savings run from a few thousand dollars to over $100,000 a year.

Apart from bag construction, this economy program covers bag design, specifications control, packaging machinery, and a survey of your materials handling operation. And it costs you nothing—regardless of the brand of bags you now use.

FREE 16-PAGE BOOKLET

Write Dept. M-3 today for a free copy of Union-Camp's new 5-Star Plan booklet. It describes many case histories showing how packers like yourself have achieved greater efficiency and economy in their multiwall operation.

UNION-CAMP*
MULTIWALL BAGS
Union Bag-Camp Paper Corporation 233 Broadway N.Y. 7, N.Y.

* NAME ON REQUEST

Exact Weight's New Automatic Checkweigher

Latest electronic controls

New engineering features

New compact size

SELECTROL®

MODEL 1206 with horizontal (side by side) rejection for tall products such as cans, cereal cartons, etc.

This new Selectrol checkweigher automatically weighs, classifies and sorts at speeds up to 120 items per minute, depending on size and weight of object. Rejection accuracy is 2/10 of one percent of the weight of the commodity at maximum speed.

New Selectrol features include compact size that requires minimum space in a conveyor line . . . and simplified circuits. Electrical controls are mounted above the conveyor line for easy accessibility.

Selectrols are made by Exact Weight, a leading manufacturer of job-engineered scales for 45 years with experience gained through hundreds of checkweighing installations during the past 18 years. For complete details, write for Bulletin 3377.

Exact Weight SCALES

THE EXACT WEIGHT SCALE CO.

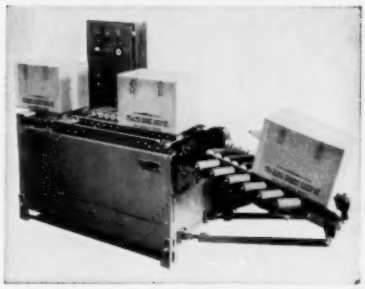
912 W. FIFTH AVE., COLUMBUS 8, OHIO

In Canada: 5 Six Points Road, Toronto 18, Ont.

Sales and Service Coast to Coast

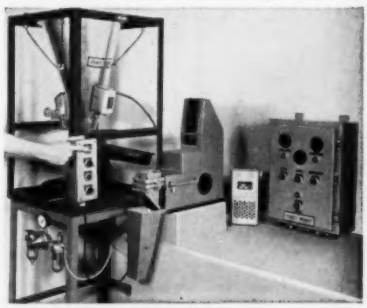
Find us in your local 'Yellow Pages'

OTHER EXACT WEIGHT EQUIPMENT



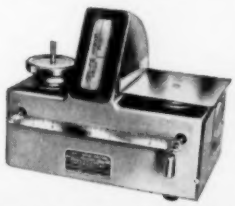
CASE AND BAG CHECKWEIGHER

Model 1250 Selectrol designed for checking bags, cartons and cases from 20 lbs. to 100 lbs. Speeds to 30 products per minute; rejection accuracy 1/10 of one percent at maximum speed. Can be supplied with or without rejection equipment. Write for Bulletin 3376.



PRECISION AUTOMATIC NET WEIGHING MACHINE

Model 4601NW for weighing dry, free-flowing products with accuracies of 1/10 grams on quantities below 10 grams and one percent accuracy on quantities of 10 grams and above. Models with capacities from 50 grams to 500 grams. Write for Bulletin 3363.



SHADOGRAPH® SCALES

Extremely fast with high degree of visible accuracy for use in all kinds of repetitive production weighing operations. Available in 35 models in capacities from 2000 milligrams to 100 lbs. Write for Bulletin 3333.

For more information circle No. 232 on Reader Service Card

PACKAGE DESIGNERS, ENGINEERS . . .

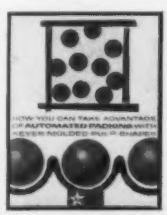
Learn how you can take advantage of automated packing with KEYES MOLDED PULP SHAPES

Through proper design molded pulp can become more than a packaging material. It can be the key to *automated packing* because it requires no fillers or dividers, no hand set-ups . . . thus is uniquely adaptable to production line packing.

This means savings for you on material handling costs, breakage and very often means more protection with less material involved.

Keyes maintains a complete staff of design engineers who can work with you in packaging your products faster, safer and more economically.

For information on this design service and your copy of a new Keyes booklet entitled "How You Can Take Advantage of Automated Packing with Keyes Molded Pulp Shapes", write on your letterhead to Mr. Dudley Smith, Product Development Manager, Keyes Fibre Company, Dept. PE-8, Waterville, Maine.



KEYES
MOLDED PRODUCTS

For more information circle No. 233 on Reader Service Card

For next pages circle numbers 234, 235, 236, 237, 238 ►

Riegel

Creative Climate for Tomorrow's Packaging

Riegel's Drapex® III is a tough new film for hard-to-skin-package objects that require deep draws around sharp corners. It gives reel, rod and tackle an appealingly "live" look in these new fishing sets by Sportsman's Accessories, Yonkers, N.Y. Strong durable "Drapex" III has excellent clarity and gloss... bonds perfectly to inexpensive board. It is a high-yield film that heats and forms rapidly.

Whether you need eye-stopping sales appeal like this... or quality protection for food products... or greater packaging machine efficiency ...or just plain low cost... Riegel can help you.

Riegel versatility is shown on the following pages. Look them over, won't you?

...the new ideas come from

Riegel

RIEGEL PAPER CORPORATION, 260 MADISON AVENUE, NEW YORK 16, NEW YORK

Specialist in the packaging of foods, drugs, and soft goods

Flexible packaging...carton board...folding cartons...carton liners

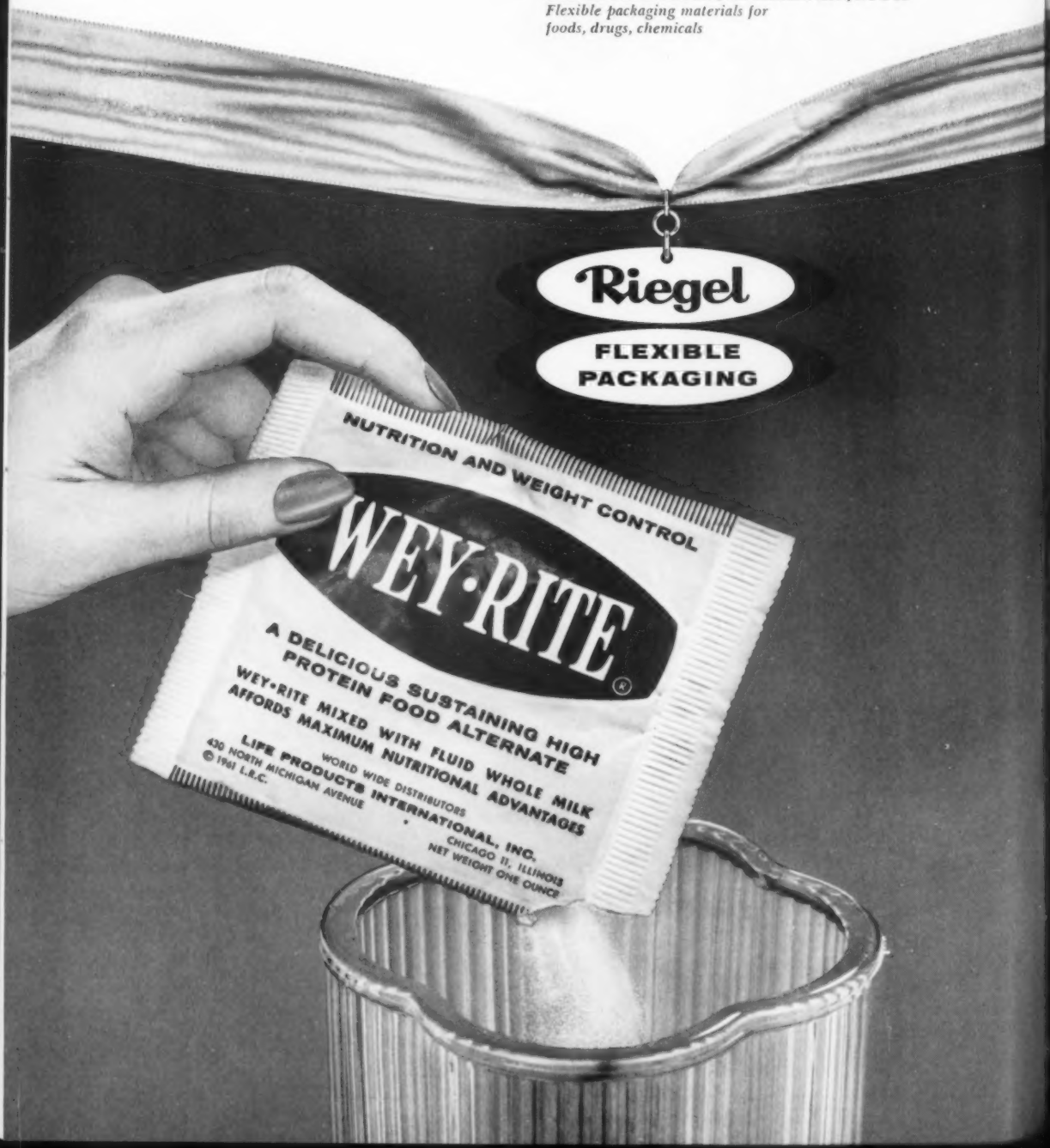
Wey-rite,® Life Research's high protein diet, stays fresh and free-flowing in Riegel Pouchpak®

"Wey-rite," long established high protein food alternate is packaged in highly protective Riegel "Pouchpak". . . a pouch-paper/poly/foil combination engineered for high-speed automatic filling equipment. Three-color printing by Riegel.

Many of the country's sales leaders turn regularly to "Pouchpak" for assured protection of flavor and quality. It's a whole family of high-performance laminated materials, tailor-made by Riegel to meet the specific needs of each product and each packaging machine.

We've a flair for thinking of every product as something special . . . and developing for it the one best packaging answer . . . be it pouch paper, glassine, foil, film, or combination . . . printed, coated or plain. Write for more information today . . . for the new ideas come from Riegel.

Flexible Packaging Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
Flexible packaging materials for foods, drugs, chemicals



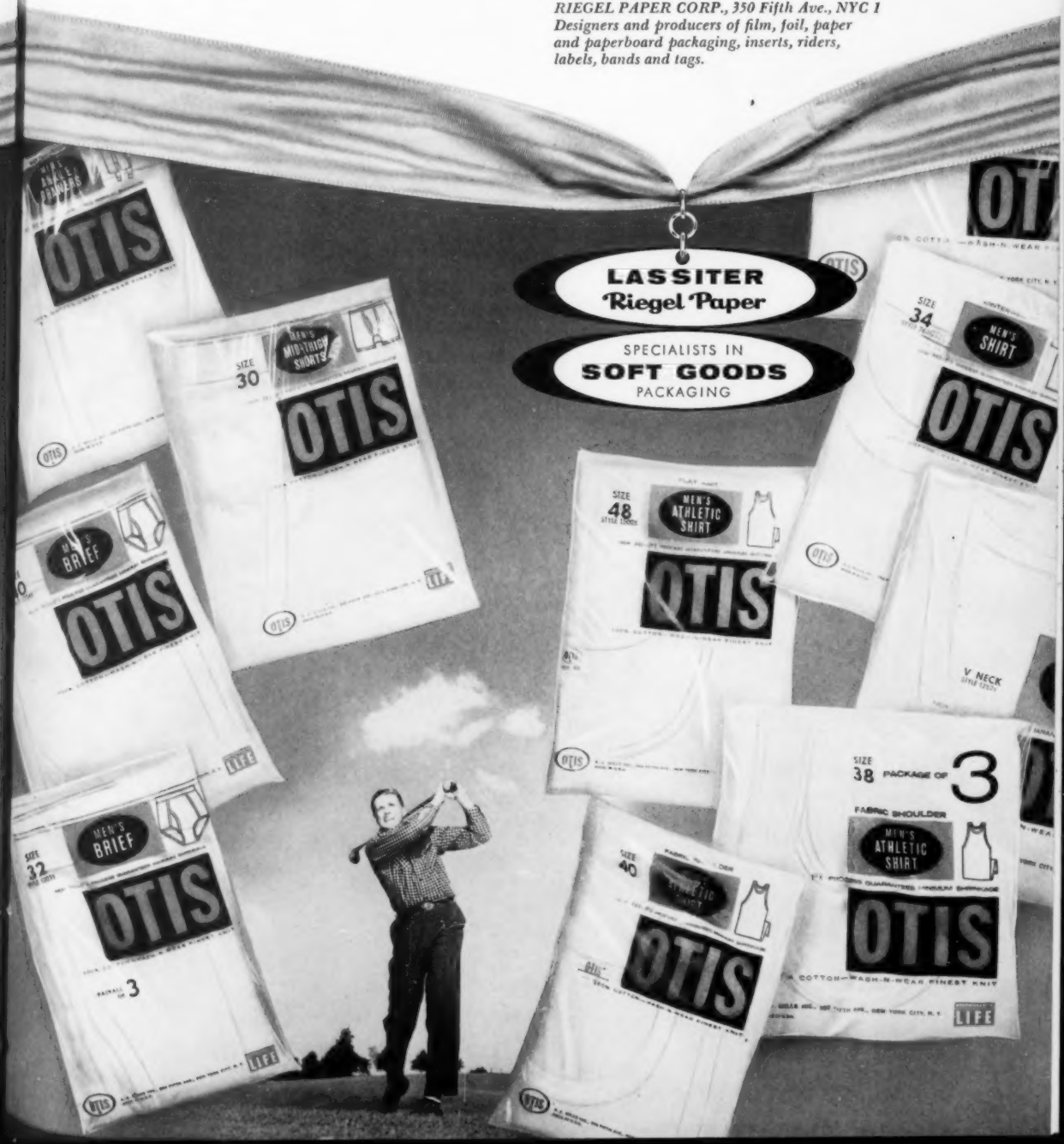
Otis Underwear: New impact for a familiar package ...created for E Z Mills by Lassiter

Revamped for stronger brand impact and easier self-selection . . . Otis' bright new packages — designed and produced by Lassiter — carefully maintain the recognition value of established Otis' logotype.

Improving packages to attract new customers without losing the loyalty of old friends is a design problem that Lassiter has solved many times. As the leading specialist in soft-goods packaging, we understand both sales and production problems. We know how to create packages that will catch the shopper's eye, build identity, create new sales, and also fit your production set-up.

This kind of *practical* creative packaging can help you. Write or phone Lassiter today.

Lassiter Sales
RIEGEL PAPER CORP., 350 Fifth Ave., NYC 1
Designers and producers of film, foil, paper and paperboard packaging, inserts, riders, labels, bands and tags.



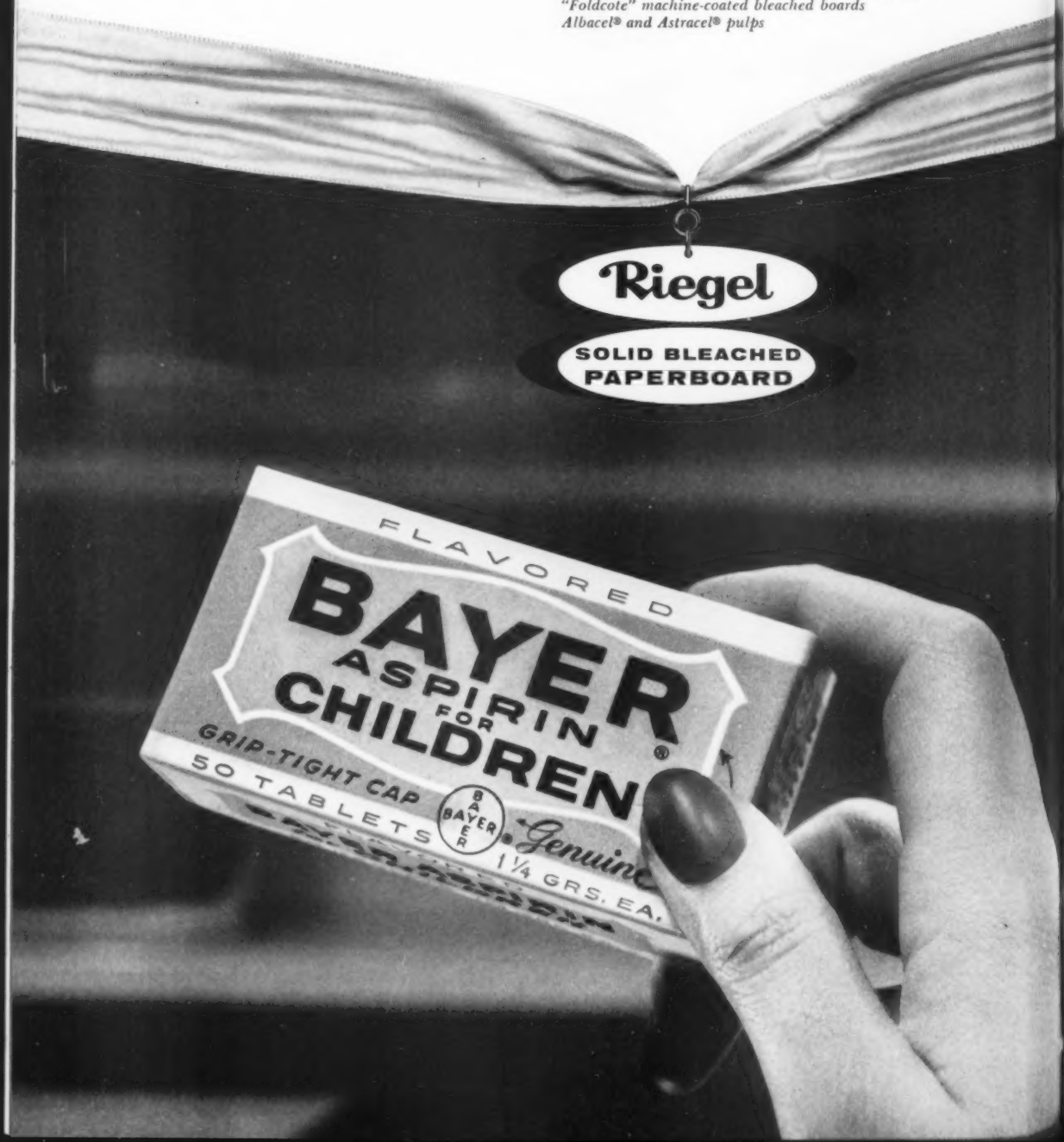
Flavored Bayer Aspirin for Children ...in bright, clean Riegel Foldcote®

Standing four-square as a symbol of purity in the medicine cabinet, this white, neat, strong Sterling Drug package uses Riegel "Foldcote" carton board, letterpress printed in three colors by The Nevins Company, Clifton, N. J.

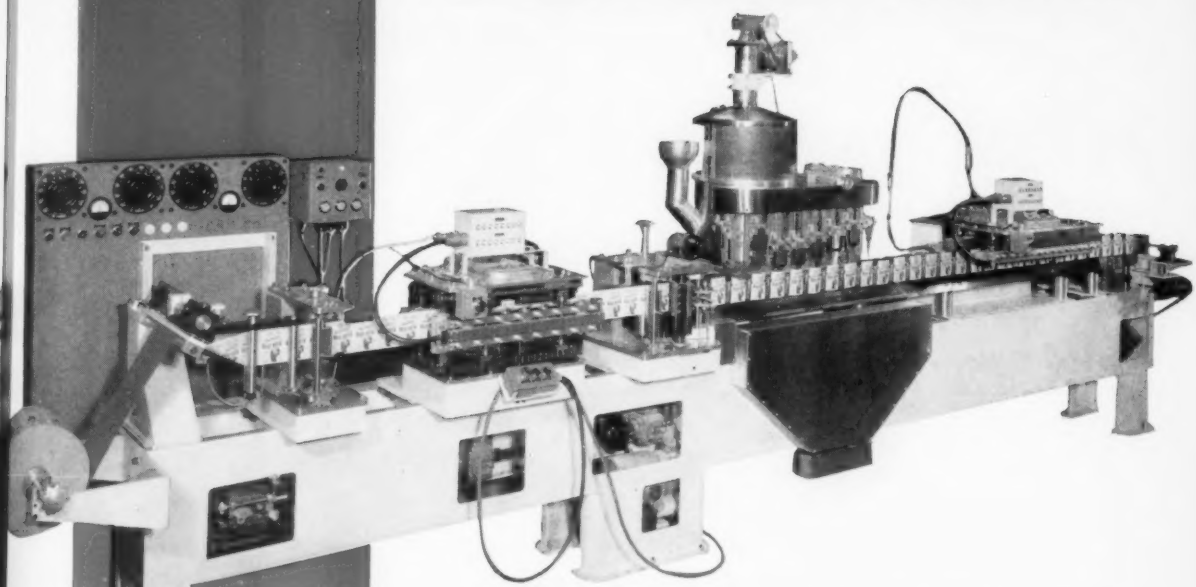
For noticeably stronger, brighter cartons... and extra eye-appeal... try Riegel's outstanding new full-bleached carton stock... "Foldcote." Super-white for color brilliance, super-smooth for high fidelity reproduction, super-strong for rugged, rigid packages that keep that clean look.

Your future, too, can be brighter with "Foldcote." Ask for samples and information. Ask too, about other Carolina solid bleached boards. Export inquiries invited. Call Riegel today... for the new ideas come from Riegel.

Pulp and Paperboard Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
"Foldcote" machine-coated bleached boards
Albacel® and Astracel® pulps



In the BARTELT Tradition



SUPERIOR FLEXIBLE PACKAGING AT VERY HIGH RATES!

BARTELT CONTINUOUS MOTION PACKAGER

Pouch packages of the type pictured here can be produced at speeds up to 500 per minute.

Speeds to 500 Packages Per Minute

Through continuous motion operation, Bartelt's proven principle of horizontal work flow now has been adapted for the production of up to 500 flexible pouch packages per minute. This adaptation is the new Bartelt Continuous Motion Packager.

Keys to this unprecedented speed are revolutionary filling mechanisms and "traveling-beam" heat sealers. The heat sealers for both vertical and horizontal seams follow the pouches, sealing 8 at a time with up to ½ second dwell time for lasting strength.

The machine can be adapted to the packaging of liquids, solids, and powders. Filling mechanisms are custom designed to best meet the requirements of the product for maximum efficiency and speed.

The use of single purpose mechanisms for forming, sealing, filling and closing makes for ease of maintenance and high operating efficiency.

Built in the traditionally rugged Bartelt style, this machine is fast, accurate, makes extra-strong seals, and will give you long, dependable service.

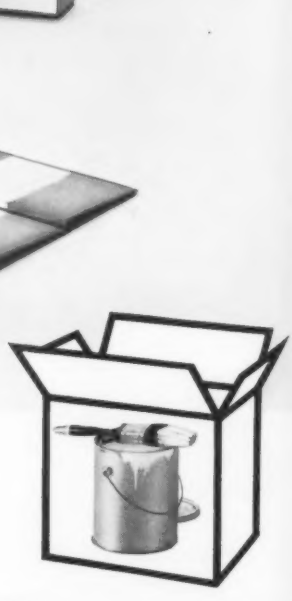
BARTELT ENGINEERING CO., INC., 1900 Harrison Avenue, Rockford, Illinois. Sales Offices in New York, Chicago, San Francisco.

BARTELT
A Riegel SUBSIDIARY

"Machinery for Creative Packaging"

Millions of houses in corrugated

What makes a house a home? The hundreds of parts and pieces that come to the site in corrugated boxes. Hardware. Nails. Tile. Wiring. Roofing. Even the kitchen sink. And who makes the most dependable boxes for building products? Hinde & Dauch Division. That's why so many of the nation's leading manufacturers turn to H & D—and get *economical corrugated boxes in volume.*



West Virginia Pulp and Paper

Hinde & Dauch Division

16 Plants • 42 Sales Offices • Sandusky, Ohio

For more information circle No. 239 on Reader Service Card

Key technology unifies packaging's activities, professionalizes them

By Frank C. Campins, *President*
Polymer Industries, Inc.
Springdale, Connecticut

The myriad activities of packaging find unity in the concept of the package but divergence in the complex distribution processes which relocate packaged items from production to consumption. Can a technology—the common denominator of all these activities—embrace the individual facets of the field with a unified social philosophy? Dr. Campins thinks so; he defines this technology and explains its scope. He concludes that the increasingly complex packaging-relocation factors (these cut across practically all industries) force the professionalizing of packaging technology and the ultimate development of one professional institute encompassing the activities of the associations and societies that serve packaging.

Every company that turns out its product as segregate units has to insure their relocation to points of consumption. The achievement of this relocation and the attainment of consumption involve many hazards. Most of these are difficult to define. Further, duration and distance aggravate all of them.

The divergence of these relocation activities is so great that each major type has its own set of problems. Each needs its own specialist study; yet all are part of the relocation processes associated with packaging technology.

Technology Versus Industry

Packaging technology crosses practically all industries wherever we find the production of segregate product units for relocation for later use. In contrast to the all-embracing character of packaging technology, the packaging industry is really a group of individual industries producing packages, packaging materials, and packaging machinery.

In other words, packaging technology is the greater and the packaging industry is the lesser—being just one servant (although a large one) of packaging technology.

You glean the scope of packaging technology by noting the diverse organizations and societies that serve these activities.

Thus we have the Packaging Institute; Society of Packaging and Handling Engineers; National Institute of Packaging, Handling and Logistic Engineers, and others. See how the activities of members of these groups involve packaging processes and cut across many industries and various kinds of companies producing things to package.

In contrast, note the associations whose members make up the packaging industry. Illustrative of these are National Flexible Packaging Association, Folding Paper Box Association of America, Fibre Box Association, Can Manufacturers Institute, Glass Container Manu-

facturers Institute, Paper Shipping Sack Manufacturers Association, and many others.

The important distinctions are that the societies serving the professional interests of packaging people are oriented to packaging technology; i.e., they are process oriented. In contrast, the associations of suppliers of packages and materials are oriented to the packaging industry and thus are product oriented.

Need Unifying Approach

Unfortunately, the segregation of these groups leads to a confused social philosophy of the very activities that they share and seek to professionalize, i.e., packaging.

The professionalizing of packaging demands a unified social philosophy that defines the corpus or the whole body of its professional obligation. It provides for interrelating advances in the various parts so that the whole is nourished toward the progressively better fulfillment of its obligation.

Only by having one over-all professional institute as its core can the unified social philosophy and obligations of a professional society reach fulfillment. In support of this position, let us examine six key points of the relationship of packaging technology and the packaging engineer.

I. DIVERGENT ACTIVITIES CALLED "PACKAGING"

The divergent activities called "packaging" find their unity in the concept of the package and their divergence in the fact that there are in effect many packages involved in the relocation of a segregate mass-produced item from the point of production to that of consumption.

This divergence comes from the steplike nature of the processes associated with the relocation to consumption. These are the distribution processes. There is a progressive sequence of distribution processes each involving its own type of package or containment. As the distance increases, the plurality of items handled as a unit increases. Thus the distribution process has many legs, each with its type of package.

Further, each leg of distribution has a starting point and a terminus. Once there is satisfactory delivery at the terminus, that leg of the distribution process ceases to have responsibility. It is this cessation of responsibility that tends to create in the compartments of specialist activity an indifference to the over-all process of relocation.

Frank C. Campins, a graduate of Massachusetts Institute of Technology with a D.Sc. degree in chemical engineering, received the Professional Award of the Packaging Institute in 1959. He is Eastern vice chairman of the board of trustees of Michigan State University's Packaging Foundation Inc. A member of the Packaging Institute, Dr. Campins serves on its technical operations and planning board and its educational committee. He is also a member of Technical Association of the Pulp and Paper Industry and American Institute of Chemical Engineers.

Professional Approach

However, each of the specialist groups serves its phase of packaging. As each exists to upgrade its specialist operations and to put them on an engineering basis, so each group is professionally oriented.

Thus, in addition to sharing the concept of the package, they also share professional orientation toward the use of the concept. This very accumulation of professional orientation resident in the several parts is slowly forcing the building of the unified social philosophy required for a unified professional activity. We must seek this philosophy in the common denominator that forms the core of the activities.

II. COMMON DENOMINATOR —A TECHNOLOGY

The mere existence of a process, i.e., packaging, which all these activities partially share and the linkage of the various groups or societies by people common to them suggests that there is a common denominator industrial art associated with packaging.

Technology is the science of the industrial arts, and the characteristic of a technology is to cut across many widely divergent industries with a common denominator industrial art. Thus, there is a technology associated with packaging.

Six common denominator factors help to identify this industrial art:

1. Places of consumption of the product are remote from and not connected with the place of production. Hence, we must have batch distribution processes of varying size and duration.

2. Batch distribution is discontinuous. Hence, there must be reservoir-dispensers of pluralities of units at strategic locations to sustain availability for consumption.

3. Distribution processes penalize the cost of the product to the consumer. Hence, pluralities of items usually share the same distribution process. Often there are pluralities of divergent items for the sake of economy of relocation.

4. Distribution processes are generally inimical to the product —a situation aggravated by the plurality of divergent items sharing the processes. Hence, the product must be "redesigned" into a unit for plural distribution, generally by unitizing groups of items by temporary containing with proper identification.

5. Temporary containing may perform many functions associated with distribution.

6. The distribution function of temporary containing ends when one rejects the empty container.

From these common denominator factors we must define the technology that is "packaging." This definition is the core of our unified social philosophy.

III. DEFINITION OF PACKAGING TECHNOLOGY

From the foregoing common denominators, we suggest this definition of packaging technology:

Packaging technology is the science of the distribution arts for batch or unit products from the point of production to the point of utilization or consumption.

This industrial art owes its name to the use of a basic method. This *basic method of packaging technology* for batch or unit distribution is the temporary unitizing of the product by containing (i.e., packaging) to relate it successfully to the various distribution processes. At the completion of distribution (i.e., at consumption), the product should retain its integrities and the unit its identifyability and presentability.

The Package

In its broadest sense the package is a mechanism for temporary containerizing that relates the product to the complex batch distribution-dispensing processes needed for relocating the product from production to consumption. Thus the package supplies the product with:

1. A shell of manipulation that supplies handleability, storeability, and identifyability for an appropriate unit or plurality of units (on a basis compatible with equivalent manipulation of other related items).

2. A shell of neutralization that preserves integrity largely by isolation.

3. A reservoir-dispenser device that temporarily contains and subsequently dispenses the product.

4. And in the case of amorphous consumer goods, a device for "preference" by the consumer to enable the item to attain consumption.

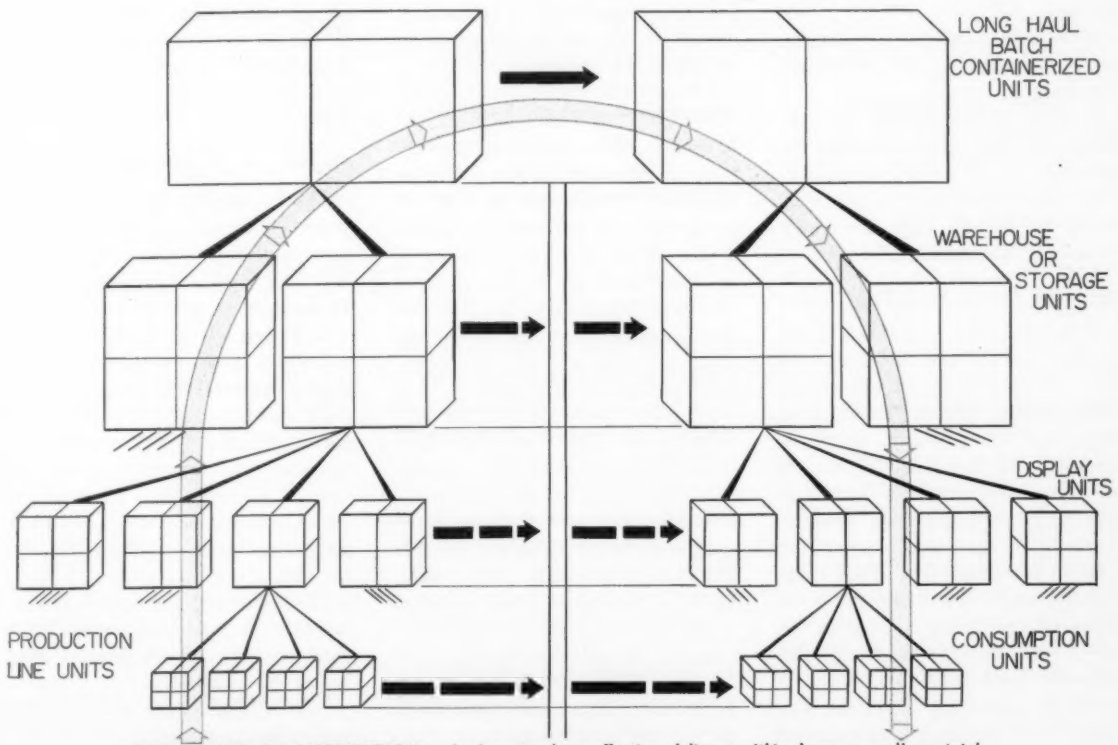
In the over-all batch distribution process for a single batch item there are many packages involved. This over-all batch distribution process reveals the scope of packaging technology.

IV. SCOPE OF PACKAGING TECHNOLOGY

Producers and consumers of batch items that are relocated to attain end consumption by a series of containment and distribution processes called packaging technology are keenly aware of the total relocation costs. They continually seek to make them work as beneficially as possible for the product.

Greater awareness of the scope of packaging technology will help to better link the work of the specialists towards achieving not only this result but will also generate greater social identification and utilization of the profession. The clear grasp of this scope is the first obligation of the professional society.

An easy way to visualize a large part of the scope is by analogy, say to the handling of mail: where at the production end a group of



EACH LAYER OF DISTRIBUTION technology involves effective delivery within layer as well as total movement (left to right) from manufacture of product to final use—and discarding of individual container.

many of one kind of item goes forward. At each of the many consumption ends a group containing *one of many kinds* of items arrives.

This change in the composition of the group or plurality during relocation demands an interrupted journey of *many steps* to permit the many regroupings needed between the key intermediary and the end destinations. This process terminates only when at consumption the user exhausts the contents and rejects the container.

How Relocation Works

The following highlights of the steplike distribution process for the relocation of pluralities of units apply broadly:

1. The unit of plural handling means different things at different steps of the distribution process.
2. The unit of instruction means different things at different steps of the distribution process.
3. Divergent kinds of unitized items may simultaneously share the different steps of the distribution process.
4. Each leg of the distribution process terminates in a reservoir-dispenser.
5. The critical factors in containment vary from product to product.
6. The critical factors in packaging technology vary from step to step of the distribution process.

Unit Of Plural Handling

Returning to the analogy of the handling of the mail, we start with the unit of end distribution or of consumption. The dimensions and the name of the unit of plural handling change from leg to leg of the distribution process, and the range includes bulk containing for long haul to consumer containing for home use. Thus there are generally as many different units of containing "packages" as there are legs or layers to the distribution process.

While containing is not the only method of unitizing a plurality of items, it is preferable because it obviates many inimical effects of the distribution process upon the integrity of the product.

Unit Of Instruction

Each instruction is keyed to its stage of distribution. Thus the instructional label for maximum unit or bulk containerization emphasizes the destination. The progressive instructional function is a corollary of progressive unitization by containerization.

Unitizing Divergent Products

Economic distribution generally requires the simultaneous handling of similar and/or divergent items. Here temporary containing enables:

a. The shaping of units of similar and/or divergent materials into compatible building blocks without loss of integrity.

b. Neutralization of units of divergent materials to share in plural distribution without contaminating or injuring each other.

c. Indentification of units of divergent materials providing each with its proper label of instruction to share in plural distribution without loss of identity.

Reservoir-Dispenser Termini

Batch utilization can rarely wait on batch fabrication and distribution to replenish its immediate needs, and so reserve material is nearly always provided by a reservoir-dispenser at the terminus of each of the legs of the distribution process. Thus the warehouse and the package are both reservoir-dispenser mechanisms.

Factors In Product Containment

When the product unit reaches the utilization point, it should show no loss of integrities (e.g., quantity, quality, shape). Further the unit of utilization (the combination of product and container jointly forming the reservoir-dispenser) should likewise show no loss of identifyability and/or presentability. These are the criteria of successful performance.

Clearly this is a very challenging job. It implies that all the hazards of distribution brought about by the effects of time, environment, and handling on the product require controlling. This means defining these factors and anticipating them with an adequate safety factor.

Find What Is Critical

For example, in the batch distribution of photographic film, any radiation is critical and causes spoilage. On the other hand, some foodstuffs or resins are very sensitive to small amounts of moisture, making the moisture-shield critical.

These critical factors, though limitless, are still "containable" for a given product for a given set of distribution processes within a given duration. It employs progressive neutralization of hazards by a series of "neutralizing layers." By limiting the hazards these layers prolong the duration potential.

Typical neutralizing layers may include a sequence of polyethylene, foil, inert gas, isothermal layer, or structuralizing cushion layer. In every case the product and containment system complement each other to produce a "neutral" resultant.

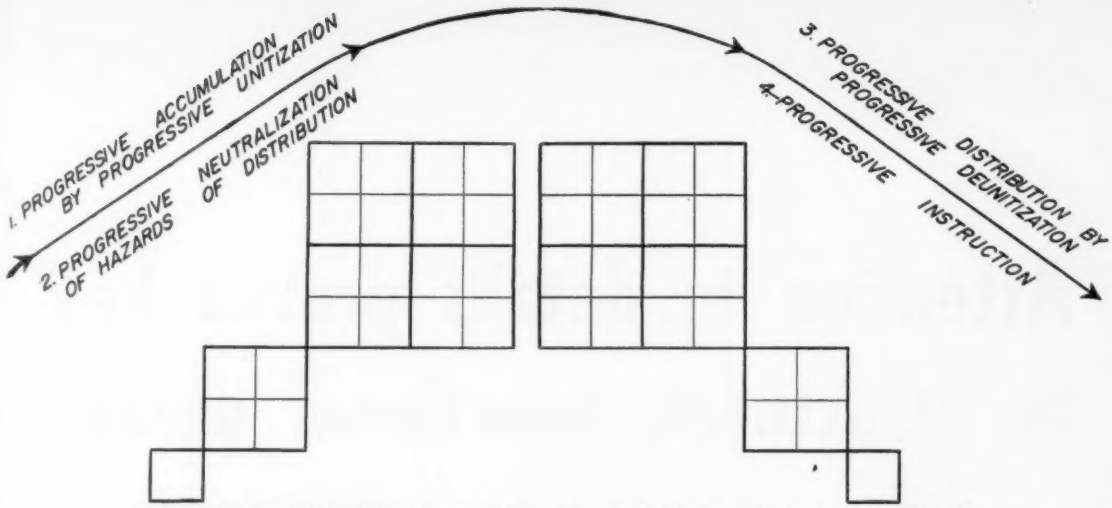
Factors In Distribution Process

The leg-by-leg approach is necessary because unique problems come in from the outside at each leg (e.g., specific aggressor environments, specific aggressor companions, etc.) so that each leg and each "packaged-unit" are designed against each other.

At any leg, the responsibility of packaging technology persists as long as we are using a packaged unit. Likewise the terminus of packaged distribution coincides with the point of rejecting the package.

At every leg the key question is: will the specific packaged-unit facilitate the completion of that leg of the journey?

The critical factors of packaging technology vary from step to step. And while the objectives appear


1. PROGRESSIVE ACCUMULATION BY PROGRESSIVE UNITIZATION
2. PROGRESSIVE NEUTRALIZATION OF HAZARDS OF DISTRIBUTION
3. PROGRESSIVE PROGRESSIVE DISTRIBUTION BY DEUNITIZATION
4–PROGRESSIVE INSTRUCTION

PACKAGING TECHNOLOGY embraces unitizing product for distribution and subsequent deunitizing for utilization. Processes always interrelate. Critical factors vary from layer to layer as does neutralizing of hazards.

widely divergent, they are all consistent with distribution, provided the terminus of distribution coincides with the point of rejecting the package.

V. PROFESSIONALIZING OF PACKAGING TECHNOLOGY

Resolving the relationships between product, container, and distribution factors (environment, handling conditions, duration in movement and storage) for satisfactory batch distribution of products from production to or through consumption becomes more complex every day. There are five reasons for this:

1. The constantly broadening environments through which distribution occurs, as influenced by the changing social, global, and cosmic requirements of man.
2. The growing varieties of products.
3. The ever-increasing standards of quality demanded at consumption.
4. The lengthening of the duration of the processes before consumption in these environments.
5. The enlarging number of methods and of materials available to resolve 1, 2, 3, and 4.

Reach Professional Level

Further, as these factors in their increasing complexity cut across practically all industries, the universality of these needs forces the staturizing of the arts to the professional level from (1) the standpoint of training in the basic disciplines (e.g., physics, chemistry, or biology) and (2) the free interchange of the research and methodologies of the dedicated specialists *via societies*.

Yet the full professional stature of all the specialist activities, interrelated as they are around the distribution concept, demands their unification as one body of knowledge with one professional society to sustain them. Here the free flow of progress from one specialist part to another would nourish the entire technology of batch distribution processes.

VI. PACKAGING ENGINEER VS. PACKAGING TECHNOLOGIST

The basic sciences play a large part in the batch distribution processes. The graduate trained in the basic sciences and oriented to the industrial arts associated with the batch distribution processes is a packaging engineer. His operational activity in packaging technology makes him a specialist.

Who Are Technologists?

On the other hand, many scientists, engineers, and others with dedicated professional attitudes have faced these industrial arts through the years and have reduced them to their scientific roots. They control and teach them as engineering disciplines.

These are the packaging technologists: they assume the senior responsibility of developing the science of the industrial arts. In their careers, they too become specialists in some segment of packaging technology.

Society: Vital Need

Engineers and technologists serving a technology as vast as packaging necessarily become specialists, and the formation of segregate specialist groups is a necessary professional step. However, these segregate groups lead to a confused social philosophy of the very activity that all share and seek to professionalize.

The "distribution" concept provides a basis for a unified social philosophy around which the various parts may be unified into one body or society—one professional institute.

Only by having one over-all professional institute as its core can the unified social philosophy and obligations of a professional society reach fulfillment. With this unified social philosophy will come clear goals for professional training and recognition. *(End)*

Attention to details proves key to structural, functional design

In developing a new package, the experience of Sears, Roebuck and Co. shows the importance of coordinating every aspect of structural and functional design—from initial idea to finished packages leaving the production lines. In connection with the Sears diamond jubilee celebration during 1961, B. C. Bateman, Sears buyer of vitamins and drug items, handed the Walter Frank Organization, Hillside, Ill. packaging consultant firm, the job of coming up with a new package for vitamin tablets. He asked for a design meeting the requirements of both mail order and retail store distribution.

Result of this project: a triangle-shaped truncated container (flared at the corners) with a transparent body of 0.068-in. general purpose polystyrene and top and bottom snap fitments of colored opaque polyethylene. For each filled container there is a three-sided folding carton of 0.018-in. stock, printed in three colors.

Speed and economy in design and production of components and packages were important. Sears' source plants started shipping these packages just 15 weeks after Mr. Bateman first received the request to develop a new package.

This design project involved more than just choosing the optimum material for strength, clarity, and lightness of weight. A review of project details offers practical pointers on relating the fine points of package production and efficiency in packaging line operation to an over-all structural and functional package design program.

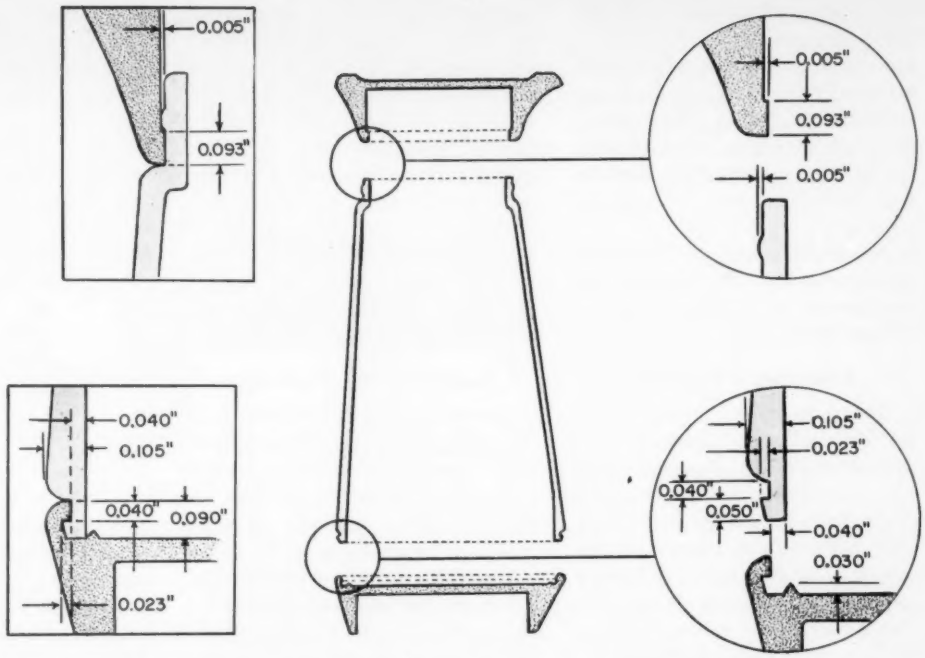
Choice Of Materials

Once J. N. Michell, vice president of the Frank organization, worked out the shape and form of a package acceptable to Mr. Bateman and his associates, attention turned to material selection and container production. Since initial laboratory tests of their first choice of material for the container body (polystyrene) disclosed satisfactory performance, they gave no further consideration to their second and third choices—linear polyethylene and polypropylene.

In choosing a container wall thickness, their practical experience with stock plastic boxes soon led them to recommend 0.070 in. as the optimum thickness. Later they set 0.068 in. as the thickness—a compromise between a possible low of 0.060 and a high of 0.080. The triangular construction assures added thickness at corners.

After selecting polystyrene for

Effective structural and functional package design demands more than the correct selection and placement of packaging components. Development of the new Sears, Roebuck and Co. vitamin package stresses some additional demands. It shows the importance of making container manufacturing "shortcuts" contribute to package economy and performance. Also important: simple production line knacks for efficient in-line handling of a new package.



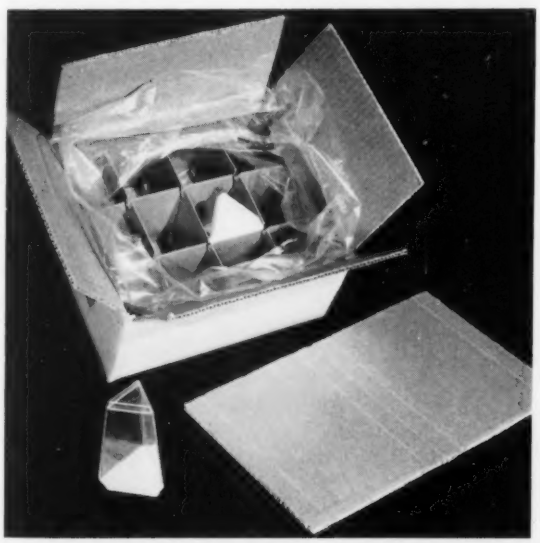
CROSS SECTION of triangle-shaped polystyrene body and polyethylene top and bottom. Circles show details of container with parts separated; squares show details of assembled container.

the body, they chose standard polyethylene for the container top and bottom. Using one polyethylene for both parts called for a fairly soft density to balance the differing requirements of the top and the bottom of the container.

Molding Details

Getting the economy of using an 8-cavity family mold (a $5,000 mold cost reduction in this case) meant having top and bottom members similar in molding characteristics so both might come from the same mold. The elasticity of the polyethylene assured the snapping in place of tops and bottoms on the polystyrene container body.

Waviness of wall surfaces (com-



EMPTY CONTAINERS (left photo) move from molder's plant to Sears' sources with bottoms snapped in place on body and with top left open. Die-cut insert fills void which tops later occupy in case. **FILLED CONTAINER** (right photo) with cap in place goes into triangle-shaped carton. Polyethylene bag inside case holds 12 individual cartons (between partitions) in case.

mon in large flat surfaces of this type) can occur as the plastic flows and cools during the molding process. To minimize such impairment of clarity, the molder, Standard Molding and Cap Co., planned the gating of the mold so that weld marks would be at the corners.

The possibility of sink marks on the top cap was eliminated by incorporating a beveled recess as part of the design.

Balancing Of Needs

Having to make compromises in material selection illustrates the difficulties typical of design projects. Developers and specifiers of packaging such as this need to balance tolerances carefully. In this case it is important for the bottom member to fit snugly on the container body while its top holds on with no more than a friction fit.

Sears executives had no concern for the compatibility of their vitamin tablets and the two plastics used in the package. The company's merchandise testing laboratory had previously verified this compatibility. Similarly they felt a completely water-tight package was not necessary because anticipated performance indicated that something almost "but not quite" a complete water-vapor transmission barrier would meet all normal shelf life and package use requirements. Hence, the decision to use a snap type of closure.

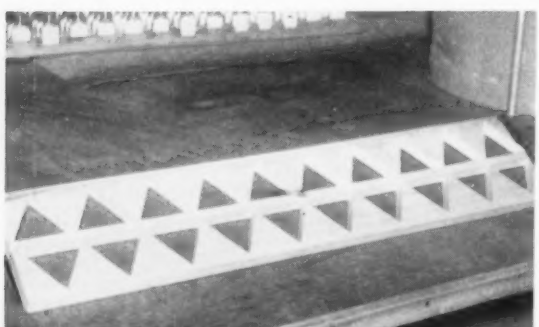
Supplying The Packages

Further, initial speculation that the polystyrene and polyethylene might plasticize each other proved unfounded. However, because of the high shrinkage factor of polyethylene the producers of the package set up crews to assemble container bodies and bottoms just as they came from the injection molding press. Even though the two plastics cool at different rates, in effect they shrink into place without deformation.

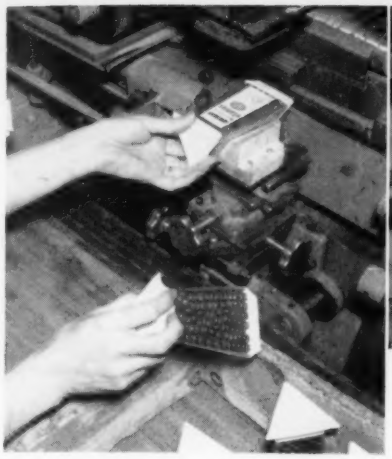
To meet Sears' standards of package clarity and to avoid having foreign particles cling to package surfaces, the molder runs all containers through a de-staticizer to take out electricity. Similarly the use of lint-free partitions in shipping cases contributes further to the delivery of clean containers at production line points.

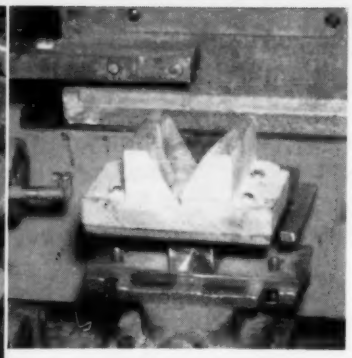
The same corrugated box serves as a shipper of empty container bodies (with bottoms in place but without tops) and as a reshipper of filled packages (all three parts plus contents in place). Using a 0.0125-in. polyethylene bag inside the corrugated box (with partitions and twelve individual containers going inside the bag) has proved an effective way of shipping packages to the lines.

How this works: when the molding plant personnel assemble polystyrene bodies and polyethylene bottoms, they package the polyethylene tops separately. Bodies and bottoms go within the chip-



HOLDER (above) built to secure 20 containers illustrates production line ingenuity necessary to handle new packages. St. Louis plant of Rexall devised such shortcuts to speed filling and closing of Sears' new packages. In place at filler (upper right), holder has rows of container with tablets already filled. Holder minimizes hazard of tipping containers. Hand cottoning technique (right) and hand capping go faster with container held in place: crew members transfer containers 20 at once (in holders) for such operations.





WOOD BOTTLE REST aids labeling of plastic containers, protects them from possible excess heat. Note detail (above).

board partitions in the polyethylene bags inside each corrugated box. After closing each bag, the supplier crews put a corrugated die-cut filler in place on top of the bag before closing the box. This fills the space later taken up by filled containers with tops on.

Packaging Line Pointers

Filling and closing triangular containers on production lines and putting them in triangle-shaped cartons of 0.018-in. stock proved a fairly simple task for Sears' vitamin tablet sources (i.e., suppliers)—Rexall Laboratories, St. Louis, and G. Barr and Co., Chicago. However, the ingenuity of production personnel in developing line efficiency with the new containers shows how production line techniques help make a new package design effective.

At one plant, whenever 6 or 8 containers piled up on the conveyor, they tended to tilt. Changing the angle of the spout of a filling machine helped offset this tendency.

One supplier removed a nylon chain conveyor serving a filler and replaced it with a table for manual feeding of containers to fillers. Next step was to move the filler 90° with reference to the table. This resulted in two girls each being able to fill two containers at once when working at the table. This also shows the need of modifying manual working techniques to handle a new package. The focal point here was training production crews to work with dexterity in handling triangular containers. They soon learned how.

In one instance the problem of an improperly snapped on container bottom occasionally coming loose at one corner of the triangle (thus spilling tablets all over the machine and the floor) led to having inspectors test each base or bottom member. After a short period of using two extra girls for full-time inspecting, the two girls doing the filling learned to test package component fit themselves.

Another knack of handling triangular containers is to catch each container on one edge of the triangle. Similar manual dexterity proves useful in cartoning. There was no difficulty in tucking triangular cartons, but line efficiency rested on teaching the girls just how to bring the flap over. This way they tuck cartons on an angle instead of in the usual way applicable to square or rectangular cartons.

Each container has a 1¼x3½-in. paper label. To keep the plastic of the container from coming in contact with the heat of the thermoplastic label operation, production heads developed wood V-shaped labeling guide fixtures. This was a precaution against the possibility of excess heat distorting the plastic.

Illustrative of using simple devices to boost production, Rexall engineers developed a holder to accommodate 20 containers. Such racks made possible the use of single-head labeling equipment. After labeling the filled and closed containers, the girls put them back in the reshippers, placing each container in a partition—and inside the polyethylene bag in each of these corrugated boxes. *(End)*

KNACK OF CARTONING plastic containers in triangle-shaped carton proved no difficulty to skilled crew members. They quickly learned how to bring flap over and tuck carton at angle.

Do you know the exact operating temperature of your heat sealers? Are you controlling the temperature efficiently? Mr. Novak and Dr. Ratliff review a practical approach to these problems and offer data on heat sealer performance on an automatic pouch former before and after improvement of control. They suggest relatively simple ways to reduce temperature variation and they show the need for dynamic temperature indication and control.

Effective heat sealing

requires precise temperature control

By R. F. Novak, *Chemist*
and F. T. Ratliff, *Director of Research*
Rhinelander Paper Company
Division of St. Regis Paper Company
Rhinelander, Wisconsin

Precise temperature control of your heat sealing equipment is one of the most important factors governing material and package performance. Yet all too often it is overlooked. This fact demonstrated itself rather dynamically during a recent study on the performance of nitrocellulose-coated papers on a single-tube automatic pouch forming machine. Uncontrolled machine variables interfered with our study of paper variables to such an extent that we first had to study the machine before we could proceed with our work on the paper itself.

We are limiting this article to (1) a presentation of data on the performance of our heat sealers before and after improvement of the temperature controls and (2) to relatively simple suggestions for reducing temperature variations on this type equipment. If you want a quick review of the fundamentals of temperature control and how the various elements in the thermal system contribute to the control outcome, see the recent article by Robert G. House.*

HEAT SEALING EQUIPMENT

For our paper studies the research department had purchased a single-tube automatic pouch forming machine of a type used for packaging coffee for restaurant use. This particular machine was equipped with four heated jaws, which simultaneously form the top of one (already filled) pouch and the bottom of the next (to be filled) pouch. A cross-section of this arrangement appears in Fig. 1. Each of the four jaws came equipped with an adjustable bimetallic temperature controller and a tubular resistance heater mounted between the controller and the serrated, hardened face of the jaw.

The front jaws are rigidly mounted to the framework. The back jaws are spring-mounted with adjustable tension so you can control the clamping pressure.

Measuring Jaw Temperature

To measure the temperature of the top heat sealing jaws we had to remove the guards. With care you can operate the machine without the guards. To measure the temperature of the bottom jaws we also had to remove the deflators. The deflators, as their name implies, remove excess air from the pouch. They also assist in strip-

*Robert G. House, "Don't let temperature get out of control," PACKAGE ENGINEERING, 6 (1961), No. 5 (May), pp. 76-89.

ping the pouch from the jaws, and you must replace them before you can operate the machine.

With the guards and the deflators removed, we measured the temperature of the jaws by placing the flat tip of a surface pyrometer in the center of the jaw, at the spots marked "T" in Fig. 1. You cannot measure the temperature at the serrated face of the jaw with the normal surface pyrometer because poor and variable contact gives misleading results.

While the above description applies only to the particular machine in our laboratory, we have observed that most pouch machines in operation have similar temperature controllers and offer similar obstacles to temperature measurement.

We thought it necessary to know the temperature of the jaws while the machine was operating. We drilled holes ⅛ in. in diameter into each jaw. We drilled these from the end of the jaw, about ¼ in. behind the heat seal face and extended to the center of the jaw.

You should not undertake lightly the drilling of a small, straight hole, nearly 6 in. deep into hard steel. The manufacturer probably should do this, possibly before final hardening of the jaw face. Nevertheless we finally accomplished it, and with thermocouples embedded in the jaws we were able to measure temperatures while the machine was operating.

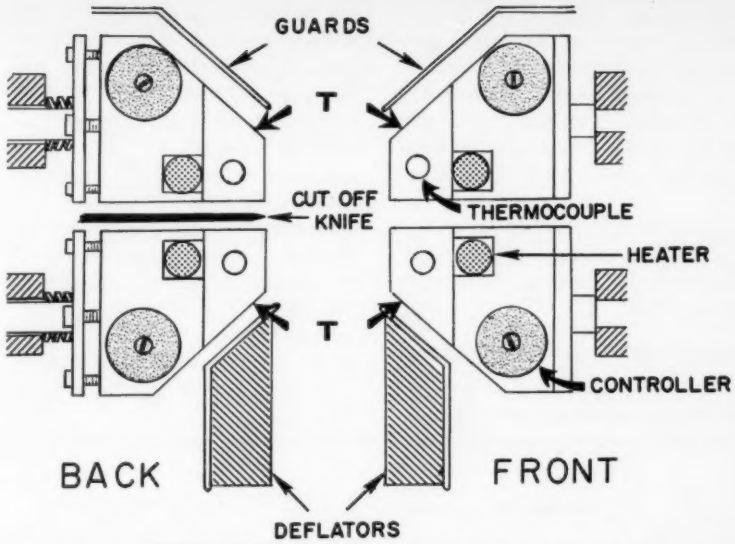
OLD SYSTEM PERFORMANCE

Paper sticking to the heat seal jaws is perhaps the most frequent source of difficulty pouch machine operators encounter when using nitrocellulose-coated paper. This frequently accompanies low sealing temperatures. On the other hand, if the temperatures are too high, you can still get poor heat seals.

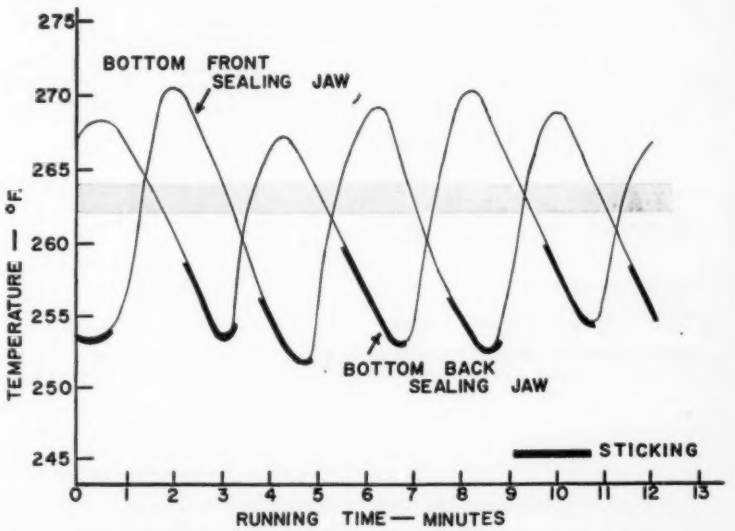
From Fig. 2 you can see that jaw sticking is a function of temperature. Quite fortuitously, at the time we obtained these data, temperature variations in the front and back lower jaws were almost exactly out of phase with each other. Pouches would stick first to one, then to the other jaw, depending on which was the cooler.

The total variation in temperature shown in Fig. 2 was 18° for either jaw, taking place within a period of 2 min. Attempting to make critical adjustments of temperature without the thermocouples could be a completely frustrating experience. In addition, it is entirely probable that if you adjusted the temperature so that the low swing did not cause pouch sticking, the high swing then might cause poor seals. You can see that better temperature control than that shown in Fig. 2 is clearly necessary.

We also observed other disturbing characteristics of the unmodi-



1 FOUR-JAW POUCH SEALER cross section showing location of heaters, controllers, and thermocouples. To determine temperature of jaws, place top of pyrometer at spots marked "T." It is impossible to measure temperature on serrated face because of poor contact.

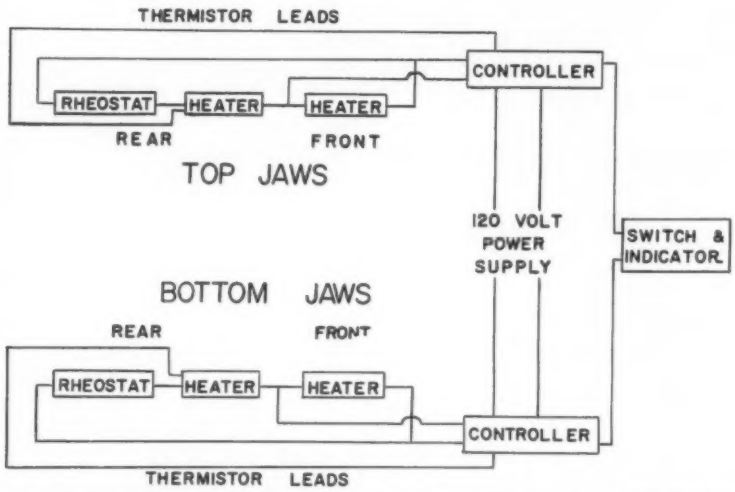


2 TEMPERATURE VARIATION of lower jaws—unmodified versus electronic controls (indicated by dotted band). Actual fluctuations with electronic control were so rapid and so small (max. deviation $<2°$) that no curve shape could be attached to time-temperature graph.

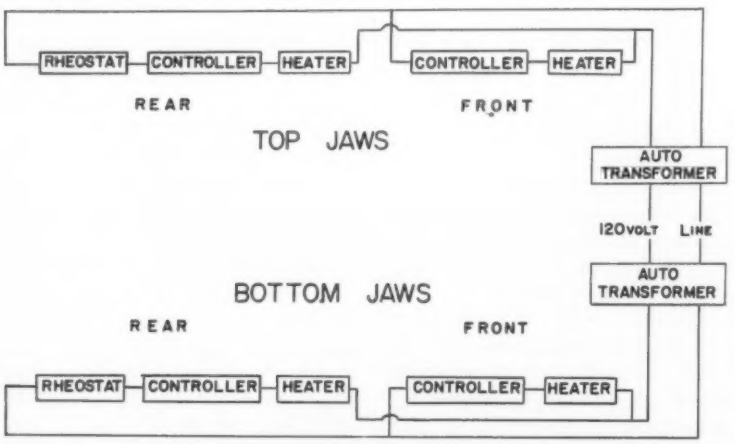
fied system. Temperature fluctuation of any one of the heated jaws would change erratically by several degrees: a jaw showing 18° temperature variation one day might show a difference of 25° the next day. Also we noticed two occurrences of an erratic shift in the apparent control point. In one of these, the average temperature dropped 30° during an experimental run.

ELECTRONIC CONTROLLERS

We had a skilled instrument technician install an electronic control system on the machine. He put thermistors in the upper and lower back jaws in the thermocouple holes. He connected these to electronic proportional controllers and through a multi-point switch to a temperature indicator. We had the existing bimetallic controllers disconnected but left them in place. We had the upper jaws connected in parallel to one controller and the lower jaws to a second controller because we thought we might require different temperatures on the upper and lower pairs of jaws.



3 BLOCK DIAGRAM OF ELECTRONIC CONTROL SYSTEM. Upper and lower jaws are connected in parallel to controllers, which can control them at different temperatures.



4 BLOCK DIAGRAM OF AUTOTRANSFORMER-BIMETALLIC CONTROL SYSTEM. Total investment for autotransformers: under $100; electrician can wire, maintain system.

In operating the control system we found that the back jaws ran about 45° hotter than the front—probably because of greater heat loss through the front jaws, which are rigidly bolted to the frame. We then connected adjustable rheostats in series with the rear jaw heating elements. The final control system is shown in block diagram form as Fig. 3.

With the new control system in operation, the temperatures of the heat sealing jaws were constant. The maximum deviation that we could find was less than 2°. (See Fig. 2.)

The electronic controllers performed excellently through a fairly extensive laboratory test period. We adjusted temperatures rapidly and with precision. Thus with practically no variation in jaw temperature we could make critical comparisons of papers and of operating conditions. You should note, however, that our laboratory operation could not approach plant operation in severity of testing such a control mechanism. Therefore, we make no attempt to extrapolate this point to actual production performance.

Components of this electronic system cost about $450.00; installation required a skilled instrument technician. Maintenance, as necessary, could require an electronics expert. In all probability, users of pouch machines would desire a simpler system for improving the quality of temperature control.

AUTOTRANSFORMERS PLUS BIMETALLIC CONTROLLERS

We disconnected the electronic control system and put the bimetallic controllers back in operation. We connected pilot lights in parallel with each heater so that we could determine the "time-on" for each.

We believed that voltage reduction would decrease the variation in temperature by requiring the heaters to draw current for a large portion of the time. To reduce voltage we got two autotransformers (Powerstats or Variacs), again

connecting the two top jaws in parallel to one transformer and the two bottom jaws (also in parallel) to the other. Fig. 4 shows a block diagram of this system.

When we increased the "time-on" to 75 per cent, we got a considerable improvement in the quality of temperature control. The data below came from Fig. 5, which illustrates the temperature variation of the same jaws before and after voltage reduction.

Temperature Variation Before And After Voltage Reduction

Heaters	Voltage	Temp. Variation (° F.)	Time-On (%)
Bottom, front	120	25	50
	94	12	75
Bottom, rear	120	17	39
Top, front	94	5	90+
Top, rear	120	15	27
	80	1	90+

The reduction in variation is not as great with this system as with the electronic controllers; however, in most cases this should be sufficient to result in more consistent machine operation.

The improvement in control is somewhat dependent upon the position of the jaw and the arrangement of the heaters and bimetallic controllers in the jaw. With the autotransformers in operation, the bimetallic controllers might be removed from the circuit. The jaws would reach an equilibrium temperature, depending on voltage, and stay there; but this might vary widely as the machine was started and stopped. Therefore we do not consider this advisable.

Will Autotransformers Help?

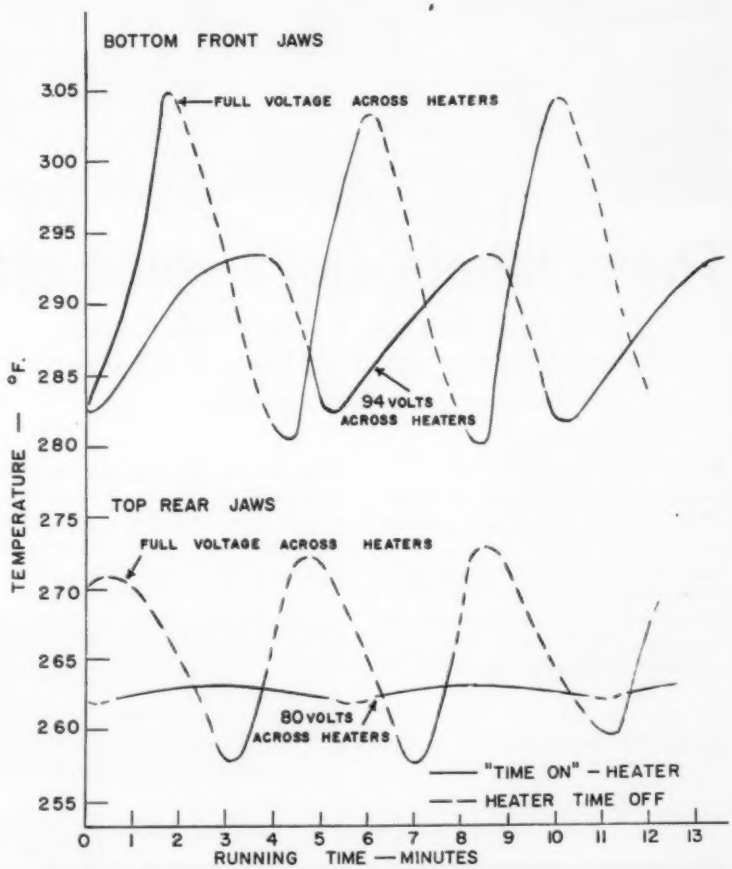
To determine whether the use of autotransformers might help to control temperature you should make the following determinations:

1. Using embedded thermocouples, determine the temperature variation.

2. Using a pilot light or a voltmeter, determine the proportion of the time during which the heater is drawing power. If your total temperature variation is more than 10° and the heater is on less than half of the time, reducing the voltage to the heater should help. The total investment for autotransformers should be less than $100.00, and an electrician can wire and maintain the system.

R. F. Novak is a graduate of Iowa State University with a B.S. degree in chemical engineering. For 3½ years he was a chemist with U.S. Rubber Co., where he was mainly concerned with coating technology. Mr. Novak joined Rhinelander in March, 1960.

F. T. Ratliff has a B.S. degree in chemical engineering from Louisiana State University, and M.S. and Ph.D. degrees from Lawrence College (Institute of Paper Chemistry). Dr. Ratliff, who has been with Rhinelander for four years, is a member of Technical Association of the Pulp and Paper Industry, the Technical section of Canadian Pulp and Paper Association, and American Society for Quality Control.



5 TEMPERATURE VARIATION of same jaws before and after voltage reduction. Reduction in variation with autotransformer-bimetallic controller is not as great as with electronic controllers, but in most cases it should be enough to give more consistent machine operation.

BACK SEAM SEALER

The back seam sealer on this same machine illustrates the effect

of design on the quality of temperature control. It has two heaters, wired in series, with the temperature controller located between the heating elements and the sealing face. (Series wiring lowers the voltage drop across each heater and, by decreasing the current density, decreases temperature overshoot. Also, when the temperature sensing element is close to the surface whose temperature is to be controlled, it should perform better than when in a remote corner as shown in Fig. 1.)

These design features (heaters wired in series and location of temperature controller) lead to better temperature control than in the jaw sealers. When we operated the back seam sealer at full voltage, we got a maximum temperature fluctuation of 5°, with the heaters on 28 per cent of the time. When we operated it at 70 volts, the fluctuation was 4°, with the heaters on 81 per cent of the time.

SUMMARY

1. All heat sealing equipment on automatic packaging machinery such as described should have continuous temperature indicating devices. To attempt the operation of such machines without knowing the temperature of the heat sealers can truly be "flying blind."

2. You must maintain good control of heat sealing temperature in automatic packaging machinery if the equipment is to operate satisfactorily. The quality of control is dependent upon the design of the heaters and on the type and location of the control instrument used. In many cases, the conventional bimetallic thermal switch does not provide adequate control over sealing temperatures.

3. While the packaging machinery manufacturer can most conveniently provide temperature indication and high quality temperature controls, good indication and adequate control can frequently be added to the machine by the user. These additions are not necessarily expensive and should return their cost in a very short time. *(End)*

These labels can't come off

They're facsimile labels. You print them directly on cartons. Saves cost of real labels. Faster than brush stenciling. Cuts shipping losses.

Here's a fast, systematic way for addressing multiple shipments. In one easy motion, you can imprint both a facsimile label and customer's address directly on a carton. 30 to 40 cartons can be addressed in a minute. No label to type or apply; no ink brushes and stencilboards to wield. Facsimile labels are sharp and clear, yet can be easily blocked out for re-handling by consignee.

All that's needed is a Weber handprinter and Kustom-Kut stencil. Stencils are die-cut with facsimile of your label. All you do is type the customer's address on the stencil and attach to the printer. Fast, neat, systematic and inexpensive. Write for full details on the Weber Facsimile-Label System.

Good for product identification marking too

FREE BOOKLET TELLS SAVINGS STORY!
Write today for the new booklet—"Now it's Touch Stenciling"

Weber
MARKING SYSTEMS
Sales and Service in all principal cities

Weber Marking Systems
Div. of Weber Addressing Machine Co., Inc., Dept. 21-H
Weber Industrial Park
Mount Prospect, Illinois

Company_____
Individual_____
Position_____
Address_____
City_____ Zone____ State_____

New low price for *OLEFANE** polypropylene film

64¢ per lb.

On quantities of 500 lb. or more

New .87 mil thickness! New high yield of 35,400 sq. in. per pound. ($0.0181 per 1000 sq. in.) These lower prices and higher yields make *OLEFANE* the best packaging buy on the market. Now, put new sales appeal in your products. They look better and sell faster wrapped in *OLEFANE*. For fast information, call your nearest office.

AVISUN CORPORATION

1345 Chestnut St. Philadelphia 7, Pa. LOcust 8-5520

NEW YORK YUkon 6-0688

CHICAGO COrnelia 7-2141

LOS ANGELES FRontier 8-5225

AVISUN

*a trademark of AviSun Corp.

For more information circle No. 241 on Reader Service Card

Faster cartoning demands new line

Making it an operating reality at Eastman Kodak Co.'s Kodak Park Works in Rochester took coordination of planning, running, and controlling.

Putting a round can in a square carton automatically, at a speed higher than existing production, led to the development of a new packaging line. The first step was to choose an automatic cartoner. Eastman's goal: a normal production of 400 cartons/min. The package: a two-piece telescoping, round metal can (closed with pressure-sensitive cloth tape) containing 8mm Kodachrome movie film inside a square folding carton. Eastman engineers (1) chose equipment for the middle of the line first; (2) developed the balance of the line; and (3) rewrote material specifications to provide the precision of manufacture that higher production packaging requires.

1. PLANNING THE LINE

In seeking equipment to deliver finished packages at this rate, they started with cartoning equipment so the rest of the line (including unscrambler, bundler, and checkweigher) would feed and handle filled cartons at a rate geared to cartoning demands.

Plan Head Of Line

Next came unscrambling equipment to put at the start of this line. Eastman's requirements called for an unscrambling system to feed 2⅝-in.-diameter ¾-in.-deep film cans at rates fast enough to stay ahead of the cartoner and assure it an uninterrupted supply.

Eastman design engineers, development engineers, and suppliers came up with three separate pieces of equipment. They designed these to work as a unit to orient and feed cans. These units include a hopper, vibrating table, and conveyor-unscrambler.

After selecting the cartoning machine and developing an unscrambling-feeding system for continuous feed into the cartoner, the engineers turned to getting equipment for the rest of the line: bundler, checkweigher, and conveyor system.

Carton Details

To run at 400/min., the cartons must meet precise specifications for paperboard and scoring details. Eastman used 0.016-in. bleached kraft folding carton stock (13.2 lb./point of caliper/3,000 sq. ft. of board) to obtain quick, square setup in the cartoning equipment.

To run at high rates requires accurate positioning of score lines

In setting up an additional packaging line with new equipment to increase production speed, you may have to start with a machine for the middle of the line. Kodak engineers did just this by selecting the cartoner first and then designing the rest of the line around it. They found such details as tightening up material specifications important in running the line at 400 cartons/min.

and precise cutting of end flaps and tucks so they fold properly. Carton manufacturing glue seals must be square and even.

Eastman specs require end-flap scorelines set back 1/64 in. from the inner-flap scoreline and the outer-flap scoreline set out 1/64 in. from the inner-flap scoreline. This allows a carton to glue up squarely and allows its flaps to fold over flat without bulging at the corners.

Also the inner flap is cut back 3/32 in. so it does not bind against the carton body when folded in and so the outer flap folds down squarely when running through the cartoner. All this is essential to provide a square package for the bundling operation which follows the cartoning.

Leaflet Specs

Other details of packaging materials contribute to high production rates. To keep web-fed instruction sheets running smoothly at 256 ft./min., for example, Eastman specifies how and with what glue its suppliers must splice the 50-lb. litho stock web and directs that there be no more than two splices on each web—to minimize downtime.

Splices are of the butt type and print matter is in register. Also stock must be sufficiently stiff to withstand high-speed cutting and folding. This is necessary so the web feeds into the folder correctly without causing downtime due to broken splices or jammed equipment. In addition, instruction sheets must be slit to ±1/32 in. with rolls evenly and tightly wound.

Keeping a line running at high speed requires informing suppliers of requirements for paper and paperboard and *why* these properties are necessary. By working with suppliers on such details as scoring, paperboard selection, and splice types for this line's packaging materials, Eastman engineers get cartons which run smoothly at a normal line speed of 400/min. Also they get instruction sheets which fold cleanly without tearing.

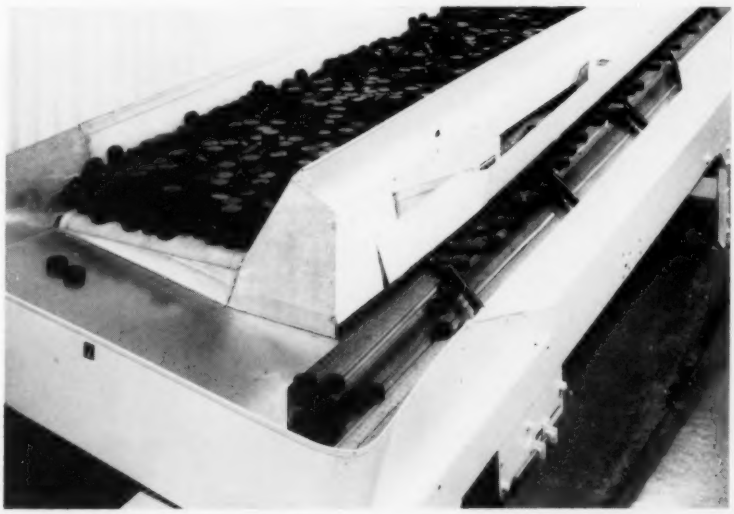
2. OPERATING THE LINE

Start: Unscrambler-Feeder

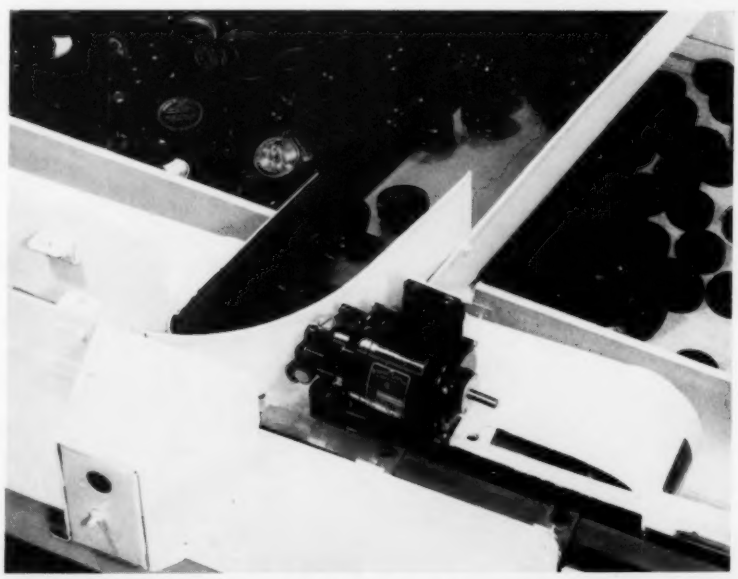
An operator loads this unit's hopper with approximately 6,000 film cans. A powered conveyor belt in the bottom of the hopper moves along at about 6 ft./min. toward the open end of the hopper. At this point the film cans (stacked one atop another or in a jumbled pile) discharge onto a vibrating platform.

This vibrator is tilted slightly and changes the direction of travel of the cans 90°. It moves them onto a conveyor device which Eastman design and development engineers worked out in conjunction with Island Equipment Corp.

The wax-lubricated vibrating platform keeps the cans moving



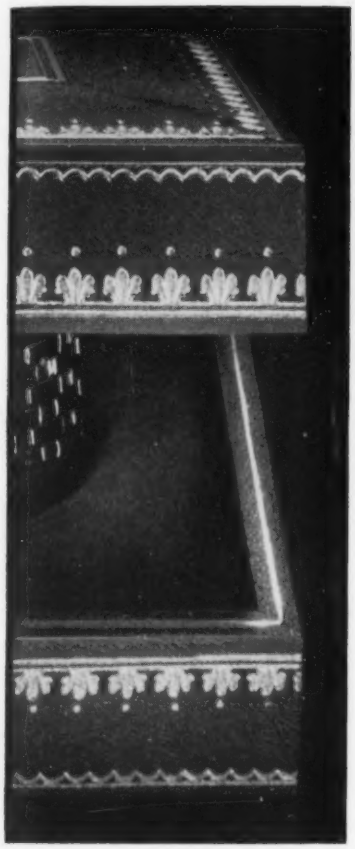
UNSCRAMBLER-FEEDER SYSTEM consists of hopper, vibrating platform, and four conveyor belts, each of which runs at different speed. Spring steel tabs deflect cans to longest, fastest conveyor belt, which feeds them to cartoner in single file at rate of 600 cans/min.



TO PREVENT JAMMING, buffer wheel, driven by small motor, returns cans to hopper that cartoner cannot accept—cartoner operates at 400 cans/min. while conveyor feeds cans at rate of 600/min. Single row of cans moves under guide rail (right foreground) on to cartoner.

New plastic beer cases outlast fibreboard 4 to 1

Here's a startling breakthrough in beer packaging design. Due to an amazingly strong plastic called SUPER DYLAN® high-density polyethylene, The Duquesne Brewing Company of Pittsburgh now has plastic beer cases that outlast other round-trip cases and never show their age! The durable 24-bottle cases can't soak up water and fall apart like the old fibreboard cases. They make delivery after delivery without chips or dents. Beer cases made from SUPER DYLAN won't absorb odors; and the smooth, white finish is easy to steam clean. Investigate SUPER DYLAN for cost-saving packages. It molds to any size or shape—and you pick the color.



Plastic watch case looks like leather

This Wyler watch case is hard to distinguish from one made of leather, yet it's molded from tough, less expensive hi-impact DYLENE® polystyrene. It opens and snaps shut without chipping or troublesome cracking around the hinge. The deep red case is molded to a pebble finish and heat-stamped with metallic gold trim. Box designed, molded and manufactured by Custom Manufacturing Company, Jersey City, New Jersey.

Push-button age needs plastics

Today's housewife spends a lot of time pushing buttons. The obliging Valve Corporation of America supplies her with aerosol actuators and caps molded of SUPER DYLAN® high-density polyethylene. They (1) cost less than metal, (2) are easier to assemble, (3) have a smooth, glossy, rust and stain-resistant finish that can't chip or dent. Avon, Revlon, Coty, Lanvin, Fuller Brush, Stanley Home Products and Simoniz are just a few users.

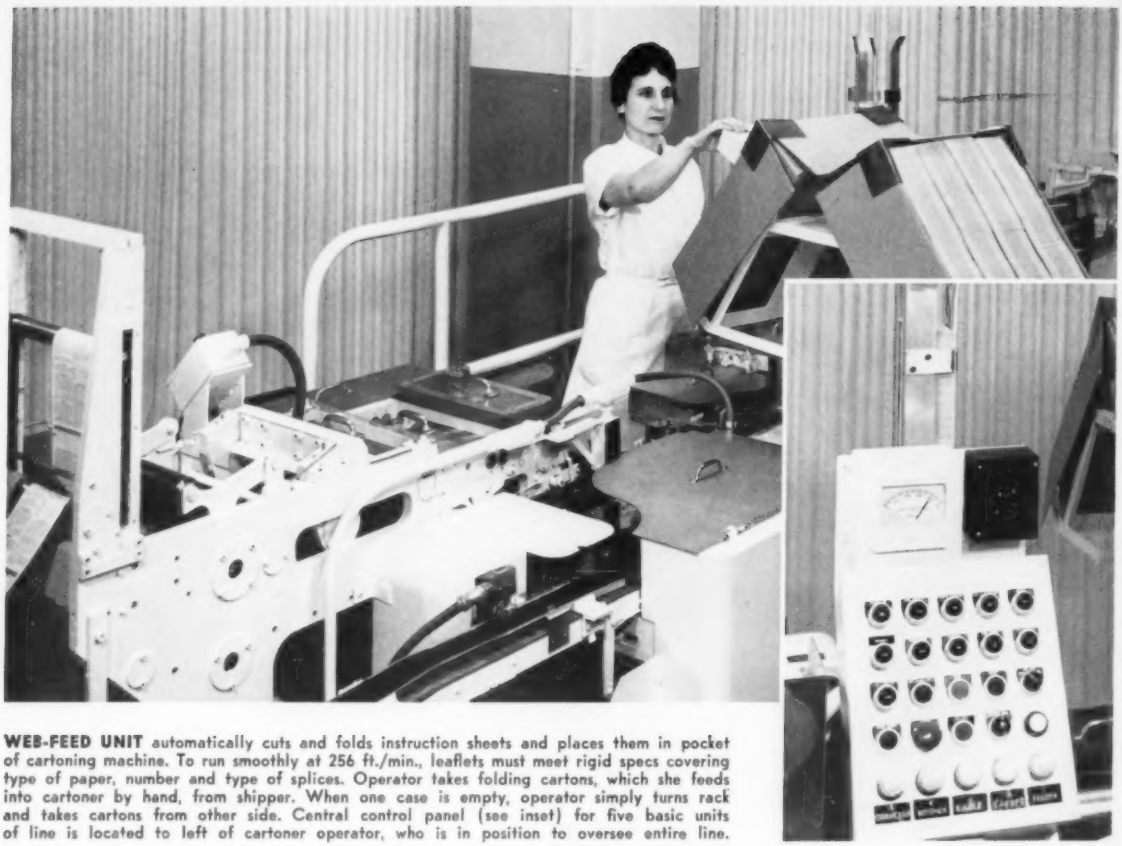
Put $170.00 in your pocket

High-speed packaging machines now make it possible for you to save real money—as much as $170.00 on each 1,000 pounds of the crisp, clear film you may now be using—and still have a better package! How? Use film made from SUPER DYLAN® high-density polyethylene and take advantage of its unidirectional, straight-line tear, low permeability and clarity. Furthermore, it is unaffected by extremes in temperature and humidity.

KOPPERS PLASTICS

For complete information about Koppers family of fine plastics for packaging, write Koppers Company, Inc., Plastics Division, Dept. 1412, Pittsburgh 19, Pa.

KOPPERS®



WEB-FEED UNIT automatically cuts and folds instruction sheets and places them in pocket of cartoning machine. To run smoothly at 256 ft./min., leaflets must meet rigid specs covering type of paper, number and type of splices. Operator takes folding cartons, which she feeds into cartoner by hand, from shipper. When one case is empty, operator simply turns rack and takes cartons from other side. Central control panel (see inset) for five basic units of line is located to left of cartoner operator, who is in position to oversee entire line.

along and breaks up stacks of cans coming out of the hopper, thus putting them into a single layer. The vibrator is necessary here because the cans do not move down the stationary tilted platform fast enough if left to roll or slide from hopper to conveyor section.

As the cans move from the vibrating platform to the conveyor section of the unscrambler-feeder, they form one layer (on a flat side or rolling on edge) instead of remaining stacked one on top another.

Belt Speeds Vary

The conveyor section of the unscrambler-feeder consists of four powered belts, each a different length, running parallel to each other and about ½ in. apart. Here the cans move in the direction opposite to the flow in the hopper.

The four belts move at different speeds: the longest and fastest one runs at 150 ft./min. and moves directly up to the cartoner's infeed conveyor; the next shorter belt runs at 110 ft./min.; the third belt at 70 ft./min.; and the shortest, slowest belt runs at 40 ft./min.

Deflecting The Cans

Spring steel tabs mounted on the conveyor frame deflect the moving cans from one belt to the next fastest belt. In this way, all cans (which were in a jumble in the hopper) eventually get deflected onto the fastest belt—feeding 600 cans/min. into the cartoner infeed conveyor.

Since the cartoner speed is slower than that of the unscrambler conveyors, there is an opening in the conveyor guide rail. Here the extra cans (which the cartoner infeed conveyor cannot handle) are forced by pressure from the line back into the hopper of the unscrambler.

Early experience revealed cans sometimes jammed in this gate in the conveyor guide rail. A 1-in.-diameter rubber-covered wheel driven by a small electric motor at the gate opening prevents this jamming. This diverts the extra cans back into the hopper where they go through the unscrambling process again.

The operator who fills the unscrambler hopper also supplies other operations in the packaging area. Because the hopper is 24 ft. long, filling it does not occupy his time continually.

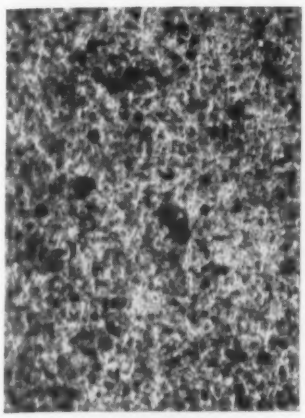
Cans Reach Cartoner

As the cans leave the unscrambler-feeder, they move onto a 10-ft. infeed conveyor and then into a Jones automatic cartoner. This conveyor provides a continuous backlog of 56 cans (about 8 sec. running time), assuring constant supply to cartoner. *(Turn page)*

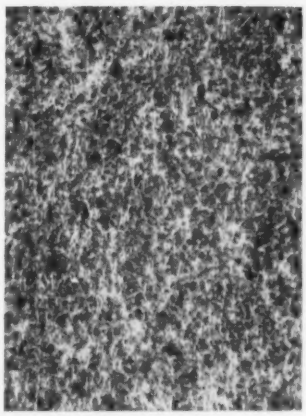
3M COMPANY CHEMICALS

THE RAW MATERIALS OF PROGRESS

Paper Chemical stops carbon "pinhole leaks," assures clean, customer-approved business forms



UNTREATED



TREATED

To keep the pinholes in Thilco* #9 carbon tissue backing sheets from leaking when heated carbon dope is applied, Thilmany Pulp and Paper Co., Kaukauna, Wisconsin, uses 3M Brand Paper Chemical FC-805.

The FC-805 forms invisible fluorocarbon "tails" throughout the paper fibers. This network effectively covers the pinholes (as in picture above, right) and prevents the dope's heated wax and colored oil mixture from flowing through onto the other side of the sheet (as in picture above, left). Thus "one-time" business forms stay cleaner and neater longer . . . produce more uniform carbon copies . . . satisfy customers.

By treating each fiber, rather than applying as a continuous coating, FC-805 gives backing tissues maximum resistance to strike-through without sacrificing strength or flexibility. Tissue sheets can be treated with ordinary wax coating equipment . . . require less carbon dope . . . can be less highly refined.

FC-805 Paper Chemical solves other problems, too. It gives unparalleled resistance to asphalt penetration . . . prevents unnecessary wax penetration on waxed papers . . . permits use of thinner-than-normal poly-coating . . . prevents grease crawl and staining at seams and closures in multiwall bags . . . permits packaging of greasy and oily parts without penetration.

For more information, see the "profile" column to the right, and send for the free booklet.

*Covered by U.S. Pat. No. 2824815 and Canadian Pat. No. 580-803.

PROPERTIES PROFILE

3M Brand Paper Chemical FC-805

Paper Chemical FC-805 is a water-soluble fluorochemical designed for application on the paper machine. As it dries, a chemical reaction converts it from a water soluble material to a water-resistant, insoluble, non-volatile material that penetrates individual fibers. This imparts grease and oil resistance, a high degree of water repellency, and effectively holds out molten wax, hot asphalt, lacquers and varnishes, without filling the pores of the paper.

OIL RESISTANCE

Type of paper	Oil Resistance (days)			
	Corn Oil	Lard Oil	Peanut Oil	Light Wt. Mineral Oil
30# Bl. kraft, moderately beaten—Flat Treatment Level (wt. %)....0.25	5	4	4	4
30# Bl. kraft, lightly beaten, Creased Treatment Level (wt. %).....0.5	21	14	21	21
15 pt. Semi-Bl. kraft board, Scored & Folded Treatment Level (wt. %).....0.3	5	5	5	10

Since FC-805 achieves grease, oil and wax resistance without the formation of a continuous film, the porosity of paper and board to moisture vapor and other gases is not affected . . . nor will it have an adverse effect upon strength, provided a material such as urea is incorporated in the formulation. In fact, FC-805 will not affect, to any major degree, the color, flexibility, printability, glueability, or porosity of paper.

Free booklet on 3M Brand Paper Chemical FC-805. Send for our booklet on the subject, or write, describing your area of interest to 3M Chemical Division, Department KCA-81, St. Paul 6, Minnesota.

CHEMICAL DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

Inserting Leaflets

As the cans move into the cartoner, a Jones roll leaflet feed unit automatically cuts and folds instruction sheets and places them in a pocket of the cartoning machine. Individual instruction sheets 7⅝ in. long are cut at 400/min. from the 4¾-in.-wide web which contains approximately 1,600 instruction sheets. This equipment automatically folds each sheet twice so it measures 4-3/4 x 1-11/12 in.

Then the folded instruction sheet goes into an opening under the pockets which hold the film cans as they move through the cartoner. About 2 in. of the folded instruction sheet's length goes into this opening, another ¾ in. of the length runs upward along the edge of the can, and the remaining 2 in. folds back over the top of each film can.

Supplying Cartons

The cartoner operator hand loads the vertical carton hopper with flat folding cartons. To keep the supply of cartons up to the demand of the cartoner, there is a rack to hold two shipping cases of empty cartons as a reserve supply.

This rack is on a stand opposite the cartoner magazine and is slightly higher than the machine. The line operator removes a supply of cartons from one side of the rack and places them into the cartoning machine magazine. When this shipping case is empty, she simply turns the rack platform around and has a fresh supply of cartons in front of her for loading into the magazine. The empty side of the rack is then refilled with another full case of cartons.

Cans Meet Cartons

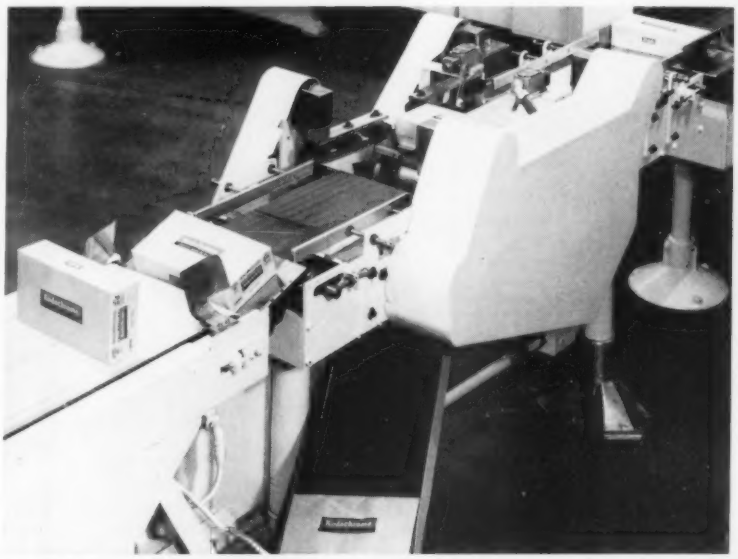
The next step in the operation is placing the film cans (with the instruction sheet folded around top, bottom and side) into cartons.

The 2⅝x2⅝x⅞ in. cartons travel through an imprinting unit which stamps the expiration date on a side panel. They continue through the cartoning machine on their large back panel with the narrow body panel leading and the open end flaps perpendicular to the line of travel.

Mechanical arms push the film cans, with the instruction sheets folded around them, out of the cartoner pockets and into the open cartons. The cartoner then automatically applies adhesive to the inner surfaces of both outside flaps.

(The selection of a carton adhesive was the result of considerable development effort. Eastman engineers chose the final adhesive on its ability to give a full tearing bond in a minimum length of time so that the compression unit could be as short as possible.)

Before the flaps close, the carton passes through a photoelectric cell



BUNDLES ENTER CHECKWEIGHER from upper right. Paddle tips correct weight packages on edge before they move on to casing operation. Over- and underweight packages drop down chute (center foreground). Rejected packages are then inspected for missing or extra component.

AT HOMEMADE CASING TABLE, operator opens shipper, places it in front of and just below table, then slides five bundles at a time into open case. When two rows are in case, air-actuated plunger pushes case onto conveyor, which moves it to semiautomatic case sealer.

WHICH ONE COMES FROM FIBREBOARD?

Which carton was created by a team of beverage specialists — including designers and draftsmen, salesmen and scientists? Which carton comes from the company where every major industry is covered the same, sensible way: by teams of experts in that specific field? Which carton, in short, comes from Fibreboard? Your customers can pick it out—and do.

The carton from Fibreboard is Fibresix... the brand-new home for beer that offers more display area (in the end panels where it is needed!), ships safer, cuts packaging costs. Shouldn't your cartons come from this kind of company? Write: Fibreboard Paper Products Corporation, 475 Brannan Street, San Francisco. (Also New York, Chicago, Los Angeles, other major cities.)

WHEELING FOLD-UP tubes

Guarding its well-earned leadership in the auto accessory industry, Permatex looks to Wheeling for dependable service and quality—famous since 1877.
Metal fold-up tubes, standard and custom caps, sifter tops, special tips and fitments.

Ask your WS salesman about your cap and tube requirements, or call collect: CRestview 7-3000.

New York, N. Y.
Lackawanna 4-9715
Chicago, Ill.
Palisades 5-3020
Cleveland, Ohio
Academy 6-5757
Cincinnati, Ohio
Parkway 1-5736
St. Louis, Mo.
Parkview 7-7380
Los Angeles, Calif.
Pleasant 2-0791

beam. This beam, crossing the cartoner conveyor, shines through the open flaps of the carton and is interrupted by the film can. If an empty carton moves through the beam, light hits the cell, automatically stopping the cartoner. When it stops, the cartoner operator manually removes the empty cartons.

Short Compression Unit

After the cartoner closes the glued end flaps, the filled cartons move off the cartoner conveyor. As they reach the end of this conveyor, they drop about 3 in. This tips the cartons onto their narrow side panel. Now they move into the compression unit.

The cartons, traveling along on their narrow side panel, take 13.5 sec. to travel through the compression unit. This unit is 90 in. long, and two powered conveyor belts, one on either side of the carton end flaps, hold the flaps closed while the adhesive sets.

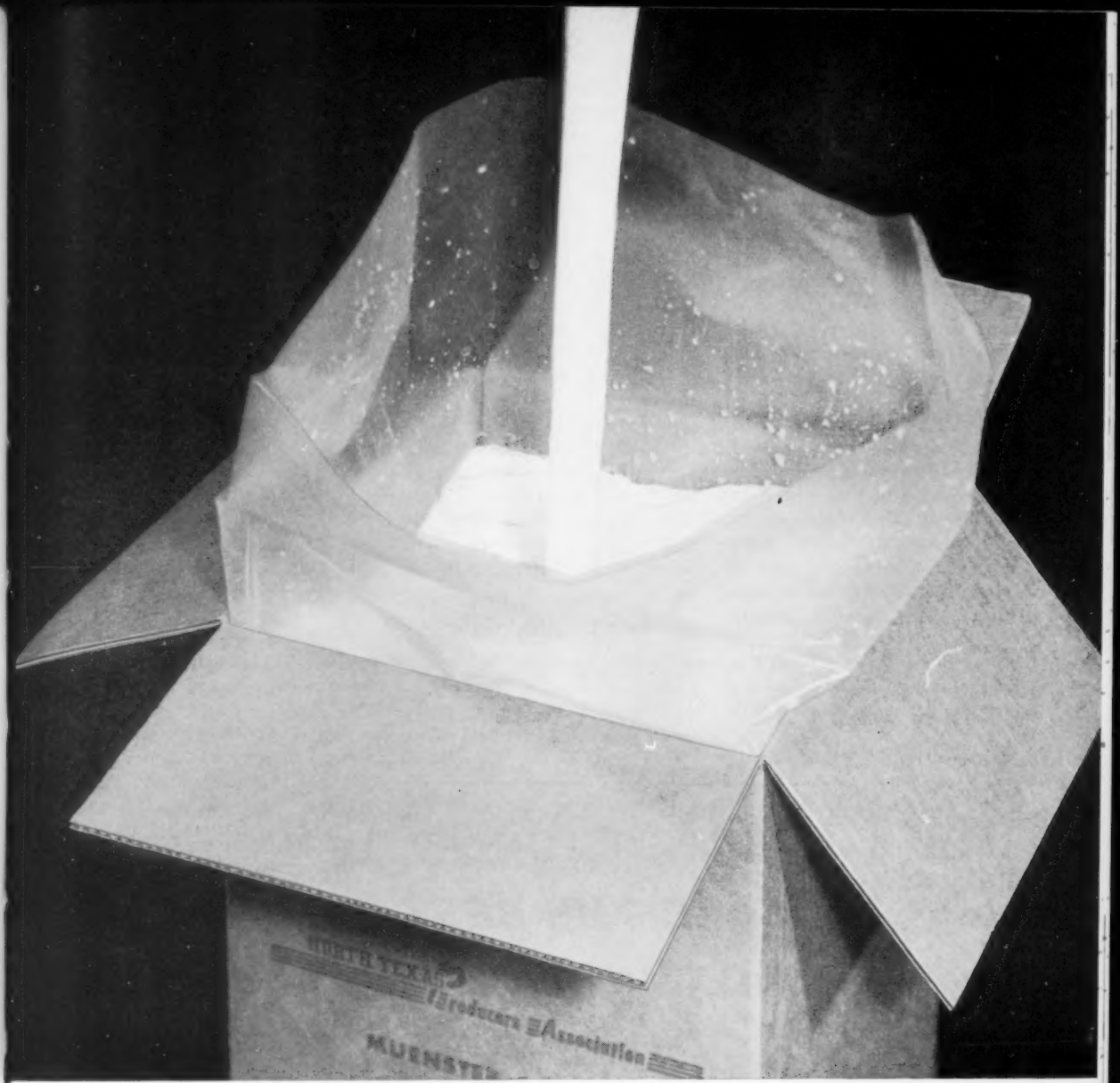
Such a short compression section is feasible because cartons move through it on their side panels. If the cartons moved through on their back panels, this unit would have to be two-and-one-half times as long.

Bundling Of Cartons

After the adhesive on the end flaps sets, the cartons move into a Scandia bundling machine which automatically forms them into two rows of ten cartons each.

The preprinted 7⅝-in.-wide yellow kraft overwrap paper fed in roll form is photoelectrically registered and cut to 23⅝-in. lengths. When cut, each wrap moves downward over rollers into a position perpendicular to (and crossing the line of travel of) the grouped cartons.

As the overwrap moves into position, the carton group moves up against the center of the wrap and then along a forming conveyor carrying the wrap with it. This forms a horizontal U-shape wrap along the top, around one end, and along the bottom of the carton group. *(Turn page)*



HOERNER CORRUGATED RETIRES THE OLD CREAM CAN

The North Texas Producers Association, in Muenster, Texas, was putting their cream—7 million pounds a year—in cans. They wanted a more economical, convenient container. Hoerner packaging specialists, with their traditional disregard for tradition, came up with a new idea—a container made of corrugated, with a polyethylene liner. The special moisture-resistant carton with hand holes and self-locking bottom measures 9x9x19 and holds approximately 50 pounds of cream. The container, along with an economical, plant-engineered automatic conveying system, greatly increased efficiency and reduced packing labor and costs. A Hoerner packaging engineer will be glad to come up with new packaging ideas for your product, too. Call the plant nearest you today!

HOERNER BOXES, INC.

CORRUGATED PACKAGING SPECIALISTS FOR MID-AMERICA

GENERAL OFFICES: 600 Morgan Street, Keokuk, Iowa • MILL: Missoula, Montana • PLANTS: Fort Smith and Little Rock, Arkansas; Danville and Waukegan-Gurnee, Illinois; Des Moines, Keokuk and Ottumwa, Iowa; Minneapolis, Minnesota; Tupelo, Mississippi; Springfield, Missouri; Sand Springs, Oklahoma; Sioux Falls, South Dakota; Fort Worth and Mission, Texas • ASSOCIATE: Cajas y Empaques Impermeables, S.A., Mexico City D.F., Mexico

As the bundle moves along a powered conveyor into the bundling machine, gluers and folders form the wrap along both sides of the bundle. Then the bundle, with one of the small ends still open, changes travel direction 90° and moves through a gluer and folder which seals this remaining open end of the bundle. The completed bundle wrap is glue-sealed along two sides and one end of the unit package.

Check Package Weight

Each sealed bundle moves along a powered conveyor to a Hi-Speed checkweigher which weighs it to make sure 20 filled cartons are in the package. As the bundles move along this conveyor, they come to a deadplate just before the scale platform. The bundles moving along the conveyor push one bundle at a time from this deadplate onto the scale, which has an accuracy at the reject point of ±1½ gr.

Two powered belts come in on each side of the bundles of correct weight and convey them over an open chute built into the line just behind the scale platform.

If a bundle weight is not correct, the belts do not pick it up, and the next bundle pushed onto the scale from the deadplate pushes the underweight bundle off the scale and down the chute. Here an inspector later opens the underweight bundle by hand and determines which component of the package is missing.

After checkweighing, bundles move along a powered conveyor to a Micro Switch-actuated plate which tips the bundles up onto their narrow side panels and onto another powered conveyor. This conveyor carries them to the casing operation.

Build Casing Table

Eastman engineers designed and built a table to facilitate the casing operation. The casing operator opens a corrugated case (10⅝x9⅝x 8⅝ in., 200-lb.-test A-flute) and places it on a platform behind and below the casing table. After inspecting each bundle to be sure it is correctly sealed with the wrapper properly registered, she slides five bundles at a time into the open container.

When two rows of five bundles each (200 rolls of film) are in each shipping case, the case is pushed by an air-actuated plunger onto a powered conveyor which carries it to an International semiautomatic stapling unit.

Thus at a speed of 400 cartons/min., the bundling rate is 20/min. and the casing rate is 2/min.

3. CONTROLLING THE LINE

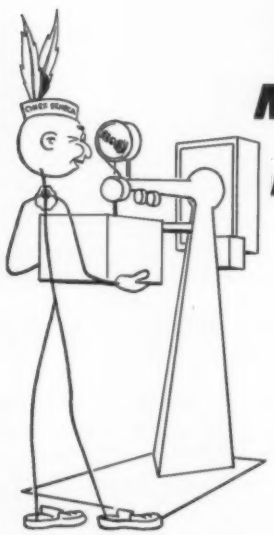
A central panel at the cartoner controls the five basic units of this packaging line, i.e., the unscrambler, instruction sheet folder, cartoner, bundler, and checkweigher. Since the cartoning machine operator is the only operator in a position to oversee the entire line, the central control of the line is from her working point. She starts and stops the whole line from this central control panel.

Besides the control panel, all automatic equipment has stop buttons to shut down the entire line when something goes wrong, such as a carton jammed in the cartoner or a wrap caught and torn in the bundling machine. These stop buttons are convenient to both sides of the line so an operator can stop the equipment quickly.

Safety Feature

Even though the line is controlled from a central panel, each machine has to be reset *individually* before the line is put back into operation from the central control panel. Each segment of the line is numbered on a separate panel which indicates the stopped area.

The operator cannot start any of the equipment from the central panel until each stopped machine on the line has been reset. This means she has to check and make sure everyone (and everything) is clear of the equipment before starting it again. *(End)*

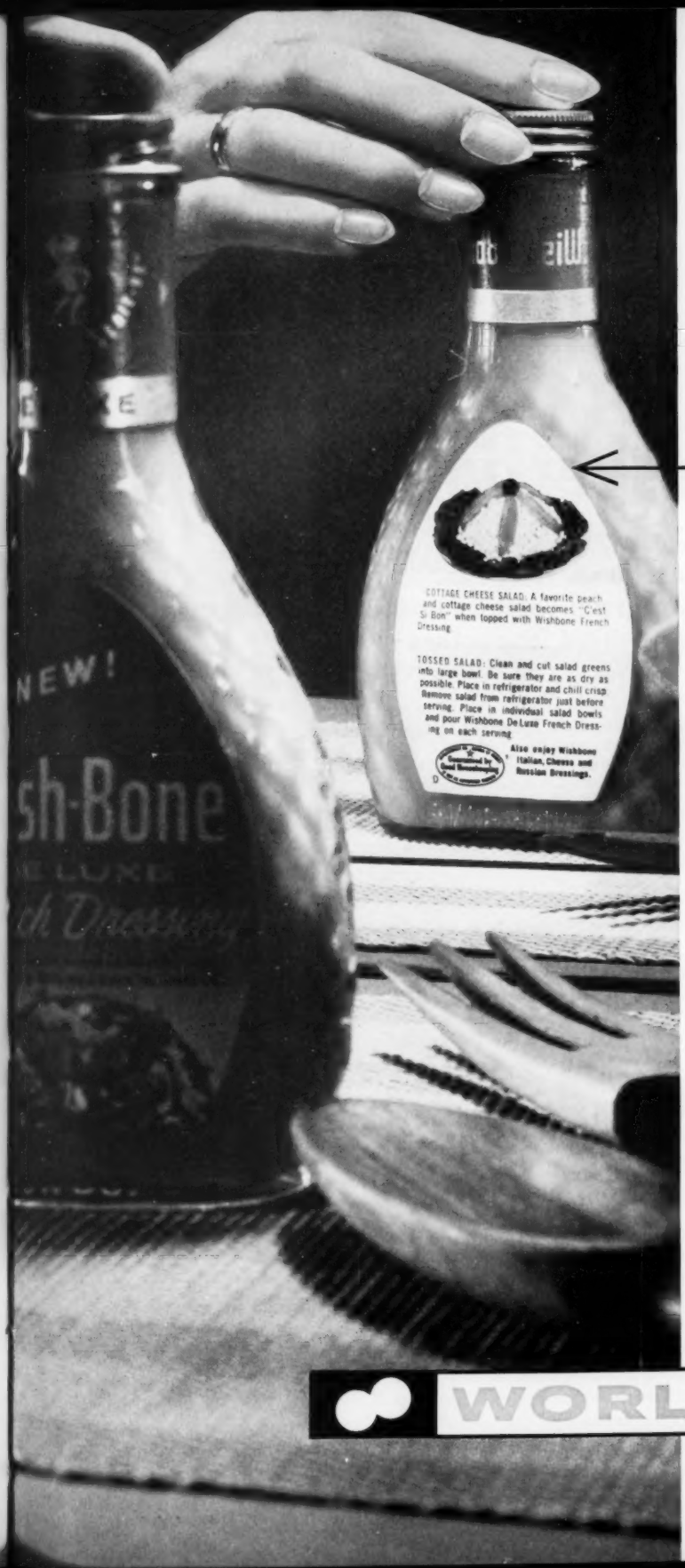


WIRE PEOPLE MAKE THE BEST BOXSTITCHING WIRE

SENECA WIRE PEOPLE have over 50 years experience in the production of specialized wire.

ALWAYS SPECIFY SENECA WIRE

SENECA WIRE & MFG. CO.
FOSTORIA, OHIO


NEW!
COTTAGE CHEESE SALAD: A favorite peach and cottage cheese salad becomes "C'est Si Bon" when topped with Wishbone French Dressing.
TOSSED SALAD: Clean and cut salad greens into large bowl. Be sure they are as dry as possible. Place in refrigerator and chill crisp. Remove salad from refrigerator just before serving. Place in individual salad bowls and pour Wishbone De Luxe French Dressing on each serving.
Also enjoy Wishbone Italian, Cheese and Russian Dressings.

The way to make a salad is "How to make a sale!"

So, the point to remember is, just provide the consumer that extra touch of convenience by using the merchandising advantages of front and back labeling.

With the WORLD Super C.M. Labeler, you can apply two . . . three . . . or more labels simultaneously at speeds compatible with your packaging lines. Ask your WORLD Sales Engineer for all the "how" benefits offered by the WORLD Super C.M.

Good labeling sells!

WORLD LABELERS

ECONOMIC MACHINERY COMPANY
WORCESTER 3, MASS.
Division of Geo. J. Meyer Manufacturing Co.

Inspection of incoming packaging supplies by a team of "specialists" is the best way to achieve high quality, to cut down on rejects, and to keep faulty materials from reaching the lines and jamming the machinery, according to Mr. Richards and Mr. Fraser. The authors' views on reconciling theoretical quality control with day-to-day practicalities will interest anyone charged with maintaining packaging line performance and quality of the output.

Incoming inspection does pay

A sound, fair, realistic inspection program relying on the good judgment of skilled inspectors

By Howard A. Richards, *Manager*
Package Standards Department
and Gordon W. Fraser, *Supervisor*
Incoming Inspection of Packaging Supplies
Abbott Laboratories, North Chicago, Illinois

The inspection of incoming packaging supplies at Abbott Laboratories aims by constant effort to let our suppliers know exactly what we need. Through the years our adherence to this policy has reduced downtime on our lines, increased the quality of our output, and maintained substantially smooth-running packaging production.

As in many pharmaceutical firms, the nature of the supplies we receive varies widely. Bottles range from 1 ml. to 5 gal., in shipments of a few hundred up to three truck loads a day. We also receive caps, folding cartons, corrugated and set-up boxes, labels, tubes, intravenous needles, plastic tubing, rubber items, plastic devices of many kinds, drums, barrels, ampuls, bags, envelopes, and other widely varying products. We have found the control of quality of these items most important, and our aim is to obtain the greatest benefit from our inspection efforts.

The inspection of bottles, caps, and corrugated and bulky items takes place in facilities provided in the warehouse area and adjacent to the receiving dock. The inspection of needles and plastic items takes place in a special area in the main plant, and samples are organized at the warehouse area and submitted.

FUNCTIONS OF THE TEAM

1—Screening Rejects

Our first obvious objective is to weed out supplies that are not acceptable and return them. We have built up a reputation for realistic standards, and our suppliers feel we operate on a sound, fair basis.

Often we find that promptness in rejection results in considerable saving to the vendor company because its plant may still be in production, unaware of the significance of the problem. When we know the vendor may have stock unshipped, our inspectors see that no further shipments take place until the vendor takes corrective steps on production and inventory.

Prompt calls have directed attention in the past to deteriorating glass furnaces, to faulty cavities in plastic molds, or to excessive chips due to worn equipment in glass tubing machines, for example.

Occasionally we retain an urgently needed shipment containing an excess of defective items. In such cases the purchasing department contacts the vendor to obtain permission for 100-per-cent inspection at the vendor's expense.

2—Purchasing's "Eyes"

The second objective is to serve as the eyes of the purchasing department. The observations, meas-

urements, and judgments the inspector renders are recorded on a standard sheet: the quality inspection report (at right). This report goes to purchasing, the vendor, and the Abbott production manager who will use the supplies. In this way a history, which we can review as occasion warrants, builds up for each item. We have used the quality inspection report for the past five years.

We sometimes compile charts of major or critical defects to compare vendors and to show up any adverse trend, if existent. The inspection reports are a sound basis for purchasing-vendor conferences on quality.

3—Notifying Vendors

Our third objective closely relates to the second. Developed by our purchasing department, this objective is to help the vendor provide trouble-free material and make a minimum of errors in judgment. To accomplish this, we send our quality inspection reports to the vendor company so it can make the information obtained in our inspection available to its sales, quality control, and production people.

This gives us our greatest benefit—the vendor's understanding of what we need and how we are evaluating the material. This helps the vendor improve the quality of its materials. Vendors, too, like to know how they are doing. We are sure they are pleased to see reports that give them a pat on the back and indicate they are doing well.

Many vendors have made very favorable comments on the usefulness of these reports. A progressive vendor can incorporate a grasp of quality problems into a planned engineering approach to improve output.

Several sections of the packaging industry have, through organization, approached 100-per-cent-quality supplies and yearly records of no rejections or serious complaints. However, other segments of the industry have greater difficulty, and it is obvious we jointly have a continuing struggle to maintain suitable quality levels on short run items.

ABBOTT

QUALITY INSPECTION REPORT

For incoming packaging supplies

This copy, if released to the supplier, is for general information in an effort to improve quality. It is in no way intended to relieve the supplier from his obligations covering materials and workmanship.

TO: J. C. BELL (3) cc. H. J. OGLESBY, FILE — Inspected by: L. E. TOLONEN; Date: 2-4-61; Typed: 2-5-61

Commodity No. 60-3090 Item XXXX 28-326 SP., 3 OZ. ROUND AMBER

Vendor XXXXXXXXXXX Order No. B25808 Date received 1-26-27-31

Lot size 20,625 X 12 Sample size 456 Date mfg. 1-23-61

Shipment Identification No.

Findings:

CHIPPED FINISH - 1 MAJOR
CRUSH UNDER FINISH - 1 MAJOR
RIBBON UNDER NECK RING - 2 MAJOR - 3 MAJOR APPEARANCE
STONES - 2 MAJOR

SCALY BOTTOMS
FEW SLIGHT COCKED FINISHES

TWO CASES FOUND IN SAMPLING, HAVING A PARTITION NOT UP TO SPEC. (MEASURES AS FOLLOWS: LENGTH - 7-3/4 - WIDTH - 6-1/2 - HEIGHT OF LONGER SECTION - 4-7/16 - SHORT SECTION - 4-9/16). FURTHER CHECK REVEALED NO MORE.

Remarks:

INITIAL SHIPMENT WITH NEW COLOR PRINT OF ORANGE AND BLACK. PRINTING IS NOT UP TO OUR EXPECTATIONS. ROOM FOR IMPROVEMENT.

Disposition:
ACCEPTED
LT:MH

"""

QUALITY INSPECTION REPORT gives details of shipment and inspector's observations and judgments. Report goes to purchasing, production manager who will use shipment, and vendor.

4—Trouble Shooting

The fourth objective is improved trouble shooting in the production areas. Our inspector builds his background of information about the needs of our lineups as he takes part in trouble-shooting activities. Through his knowledge of vendor capabilities, the inspector can defend the vendor's supplies if this is pertinent to the problem on the lineup. By this technique an evaluated history of any production complaint can be available to the vendor for corrective action.

If the problem is other than quality of the supplies, the quick availability of advice in this area assists the evaluation and solution of the problem. This can reduce significantly the unnecessary complaints to the vendor. Similarly we can call in vendor representatives for help when justified.

Other instances occur when the problem relates to package design, and the inspectors call on the package engineer for remedy. Problems are often the combination of several factors.

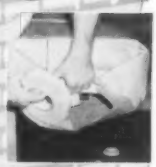
We have had instances in which tolerance is unknown: for example, out-of-round private design bottles affecting labeling on our high-speed line. In this case we made experimental runs on lineup during regular production. The vendor's

packing a product
that Needs
CUSHIONED PROTECTION?

You Need
EXTRA-FLEXIBLE
ChippaFLEX

Saves TIME
Saves COST
Saves CONTENTS

folds
. . . easily and neatly in any direction . . . any angle



molds
. . . to fit any irregularly shaped part or product

holds
. . . contents cushioned against impact . . . dissipates "shock waves" for maximum protection!

Meets Govt. Spec. and Post Office regulations — available in rolls 6" to 84" wide, sheets, special die-cut shapes.

TEST ChippaFLEX FREE
on your own product! Give us dimensions — we'll send you enough for several wrapping tests.
Available thru leading Paper Merchants or write.
Chippewa
PAPER PRODUCTS CO., INC.
2425 S. Rockwell St., Chicago 8, Ill.
Eastern Plant: So. Hackensack, New Jersey.

Howard A. Richards holds an M.A. degree from University of Michigan. He has been associated with Abbott packaging since 1946 and is currently manager of the package standards department. Mr. Richards is a member of the drug and pharmaceutical committee of the Packaging Institute.

Gordon W. Fraser studied statistical quality control and statistics at Northwestern University, and he recently completed the advanced quality control course at Purdue University. The last 12 of his 23 years with Abbott have been in quality control, and he is presently supervisor of incoming inspection of packaging supplies. Mr. Fraser is a member of American Society for Quality Control.

representatives were on hand when we did this. A general decision in instances like this depends on having a system of measurement as a basis so all parties have a uniform basis for judging future production.

5—Serving Production

Our fifth objective is service availability to the production departments. Special tags mark incoming shipments of borderline quality or those containing critical defects. Each tag bears a number similar to the one appearing as the shipment identification number on the inspection report. This enables the production department to pinpoint questionable lots and take whatever steps are necessary in inspection.

When necessary, we standardize the classification of defects among the package standards and incoming inspection departments and the particular production department involved. This brings everyone to the same level of inspection.

The disposition request for production rejects and reject lots originates in incoming inspection. There is further action by purchasing, production planning, and inventory control. We store defective material in our quarantine area.

We work with purchasing, production, and package standards departments to arrive at the proper size corrugated boxes to contain our packaging supplies. This aids the warehouse in palletizing methods and the production department in the movement through its preparatory operations. We also suggest methods of packaging cartons.

The incoming inspection group establishes tightness standards for bottle caps. These include the immediate removal torque for the production finishing specifications. Also there are specifications for maximum and minimum torque.

INSPECTOR'S JOB VARIED

Over the years our inspectors have become, in a sense, development people. We encourage them to think constructively about possible improvements in the packaging they see. They scrutinize the materials coming in. Drawing upon their training and experience, they work with suppliers and contribute to the development of an improved package. Examples include the setting up of break force on easy-open ampuls and the penetration test of I.V. needles.

Our inspectors have authority to approve a mold design for a glass bottle, rubber stopper, or plastic part before our suppliers go into full production on the item. We have the equipment necessary in reaching the judgments on which to base these approvals.

All this makes it obvious we expect a lot of our inspectors. However, they appreciate the vital importance of their activity and

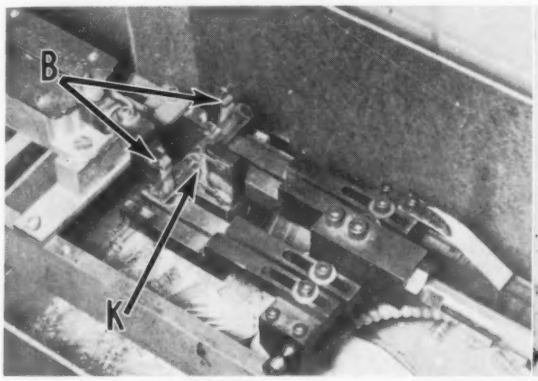
Here is the ampul break test Abbott uses in its quality control inspection program for incoming packaging supplies.

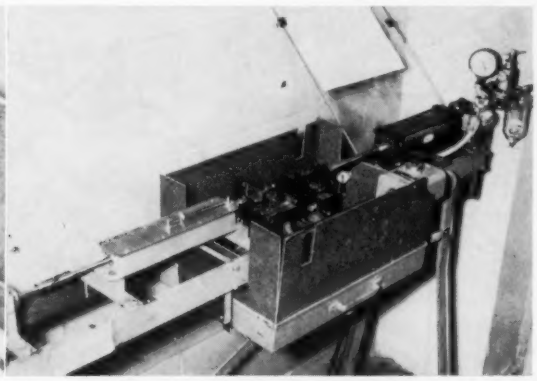
To snap properly when used, a 5-ml. ampul must break between 8 and 20 lb. of pressure in 99 per cent of the test samples. The 10-ml. ampuls must snap between 6 and 18 lb. in 99 per cent of the samples. The force to break the larger ampuls is smaller because the two vertical bars on the testing device are spaced farther apart for them. The span between the bars for 5-ml. ampuls is 1.75 in.; for the 10-ml. ampuls, 3 in.

This difference is necessary since we test to a "confidence level" while the military standard tests to an "acceptable quality level." The difference in sample size is determined by a mathematical factor that corrects for the difference between the two statistical test methods.

Test Method:

To make the test, the inspector slips an ampul in between the pair of bars and the knife edge. Each





Testing Equipment:

The Kimble ampul break tester consists essentially of a pair of vertical bars (B) and a vertical knife edge (K). The knife is offset from, but centered between, the two bars.

The pair of bars is connected to the shaft of an air cylinder mounted horizontally on the opposite side of the knife edge from the bars. The knife edge is connected to a spring scale which is calibrated in pounds.

Sampling:

We select at random 79 ampuls from an incoming shipment of 8,000 to 22,000; 101 from a shipment of 22,000 to 110,000. We determine sample size by modifying Military Standard 414—the standard suggests a sample of 75; we test 79.

large end of the ampul rests against the bars; the knife edge is positioned against the center of the ampul (at point of the notch), which lies in the horizontal plane. Pressure of the knife edge holds the ampul firmly in place.

The inspector actuates the air-driven cylinder, which causes the two vertical bars to pull the ampul against the knife edge. The ampul, in turn, pushes the knife, which pulls the scale indicator until enough force is exerted to break the ampul.

A pneumatic damper on the scale keeps the indicator from fluctuating when the ampul breaks. Reading from the scale indicator the force required to break the ampul at the center, the inspector records the data on his report form. He repeats this test on each of the ampuls in the test sample.

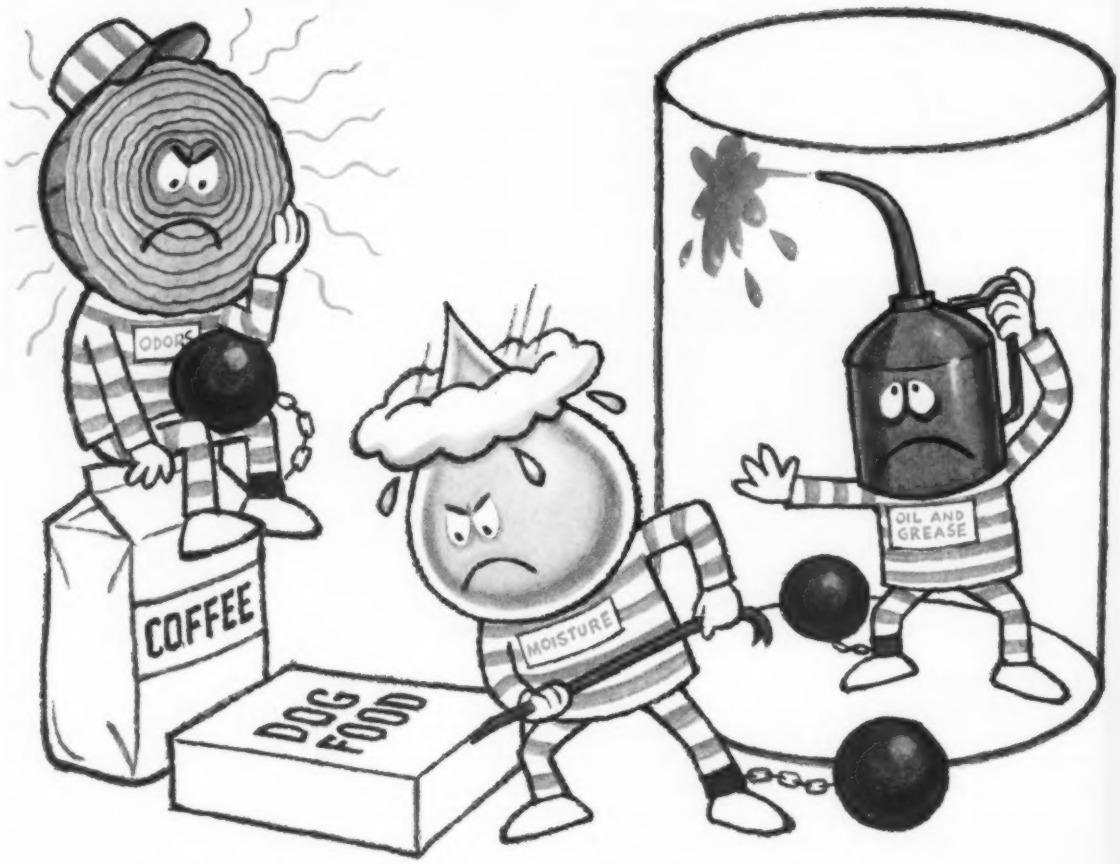
the satisfaction of significant accomplishment.

Production trouble shooting has sharply decreased through the years. Development of alertness in observing any trend toward trouble is a necessary part of an inspector's job. Newer employees gain basic experience now by working with the others. We recruit most of our inspectors from production and production quality control. They must be alert and imaginative. They must be capable of seeing a mistake and seeing it in the perspective of the entire operation. They must have a desire to see things work right and to contribute to smooth running operations. The inspectors develop individual specialization and yet they overlap each other in experience.

Our inspectors frequently visit the plants of the industry whose products they inspect. We encourage the vendor's production foremen or quality control per-

RESYN® 3600

POLYVINYLIDENE CHLORIDE LATEX FOR PROTECTIVE COATINGS



LOCKS 'EM IN OR OUT—LONGER

RESYN 3600 promises a revolution in protective coatings with simple low cost application by high speed coating machines or spraying. The barrier properties of this water dispersed polyvinylidene chloride are exciting and exceptional:

OIL, GREASE AND CHEMICALS—Completely resistant to oil and grease. Non-reactive to concentrated acids, solvents, alkalies and other corrosive materials. Fire retardancy is excellent. MOISTURE—Moisture vapor transmission is 2½ to 5 times lower than that of polyethylene. ODORS—Resistance to transmission of common gases 1000-2000 times greater than polyethylene . . . RESYN 3600 can be coated on paper, paperboard, plastic and other substrates. It also may be applied to fibers. It is of interest to a broad range of industries, including food and other types of packaging, converting, chemical and textile. Now in full scale commercial production. Call or write your nearest National office for full information.

National RESINS

NATIONAL STARCH and CHEMICAL CORPORATION

750 Third Avenue, New York 17 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

And All Principal Cities in the United States, Canada, England and Mexico

sonnel to visit us and tour our plant. There are discussions leading to agreement on tolerances or in working out problem areas.

TESTS AND CONTROLS

Some packaging supplies require chemical tests to evaluate them. Examples are rubber stoppers and some plastic tubing. Samples go to control chemists for evaluation before supplies are released. We may need the help of the laboratory in evaluating other items. We may face such questions as this: does the coating over the metal have pinholes? Our research division assists our inspectors on problems that require additional chemical or physical testing.

SQC As A Guide

Statistical quality control serves as a guide—it is a tool to help decide size of samples. An experienced glass inspector can quickly tell whether the current run was a high quality or a problem run, and he can adjust his sample size to cover proper evaluation of possible borderline shipments.

On measuring the sharpness of needle points, breakage of ampuls, or a particular measurement of critical detail, the techniques of statistical quality control aid us in properly evaluating the supplies. But we do not let merely an acceptable level become established as our objective. Our objective is 100-per-cent-quality supplies where obtainable. Some packaging suppliers closely approach this because they engineer such capabilities into their processing.

Several years ago we had the experience of observing an increase in the frequency of critical and major rejects although well under any SQC-controllable level. This made conditions on production lineup more severe, as our objective was 100-per-cent quality. The supplying company found that over-emphasis of SQC in its plant was the cause. The company returned to emphasis on the manufacturing art of its particular business with SQC just as an aid, and the problem immediately was reduced substantially.

Hold Suppliers Responsibile

We do not believe in writing elaborately detailed quality control specifications. If we did this, we would be in danger of assuming responsibility for the quality of the supplies. We intend that this responsibility remain with our suppliers.

The aim of our whole incoming inspection program is to improve outgoing quality and to reduce downtime on the packaging lines by catching errors in incoming supplies and materials. We also validate correctness of inventory. Formerly the bulk product sometimes would be made and ready for filling, but supplies would not be suitable for use. The end result of our incoming inspection group is an organized effort to control packaging supplies with over-all savings that we believe are greater than the expense. *(End)*

Aerosol packagers use Sanitairs to air-clean containers as a safeguard against valve failures.

Most Positive Air-Cleaning Action Assured at All Speeds

With the thorough cleaning action of the Sanitair you can be *absolutely sure*. Removes all loose foreign matter from new containers:

A—Containers ARE INVERTED *before* air tubes engage the containers.
B—Containers ARE INVERTED *when they are blasted* by compressed air.
C—Containers are still INVERTED *after* the air tubes are completely withdrawn.

Only in an inverted position are the best possible air-cleaning results possible. This is just one of several good reasons why leading companies use a dozen or more Sanitair units in a single plant. For complete details, write for the "Sanitair Bulletin."

U. S. BOTTLERS MACHINERY CO.

4009 N. ROCKWELL ST., CHICAGO 18, ILLINOIS

BOSTON - NEW YORK - PHILADELPHIA - LOS ANGELES - SAN FRANCISCO - SEATTLE - HOUSTON
DENVER - PORTLAND, ORE. - KANSAS CITY - TUCSON - JACKSON, MISS. - ATLANTA - MONTREAL
TORONTO - VANCOUVER - WINNIPEG - SANTIAGO - SAO PAULO - HONOLULU

US

For Air Cleaning

containers of any size or type. The E-Z Air Cleaner is ideal for semi-automatic packaging operations. Small, portable. Containers are inverted over air valves, two at a time, up to 40 per min. Fast, efficient. Write for the "E-Z Bulletin."

For Rinsing

with cold or hot water or steam. Handles any size bottle or jar. Rinses inside and outside of container if desired. Bottle Rest protects against neck-chipping. Operation is simple, effective. Write for "Rotary Rinser Bulletin."

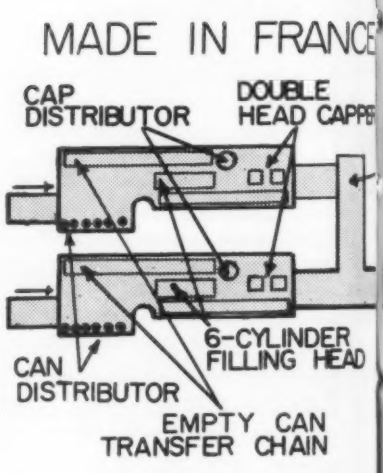
Feed Containers

to your packaging line at a steadier pace and a lot cheaper! Just dump 'em on, and let the Feeder take charge. Handles any shape or size container. Pays for itself quickly. Write for the "Feeder Bulletin."

"Mail order" high-speed packaging line

By J. A. McAuley
Assistant Senior Engineer
Socony Mobil Oil Company, Inc.
New York

and J. R. Mallard, *Chief*
Package Filling and Shipping Service
Mobil Oil Francaise
Paris, France



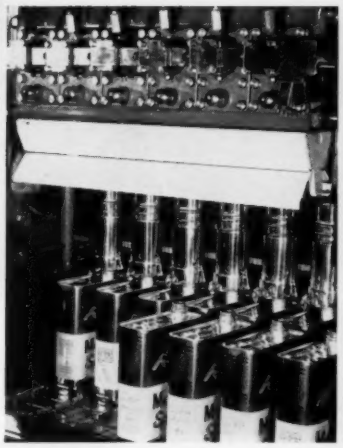
Installation of a complete high-speed packaging line for two-liter rectangular cans at the Notre Dame de Gravenchon plant of Mobil Oil Francaise shows what can be accomplished by cooperation and planning between a company in New York and an affiliate in Europe. This packaging line combines equipment built and designed in the U.S. with equipment of French manufacture. Coordination of the engineering effort was entirely by correspondence.

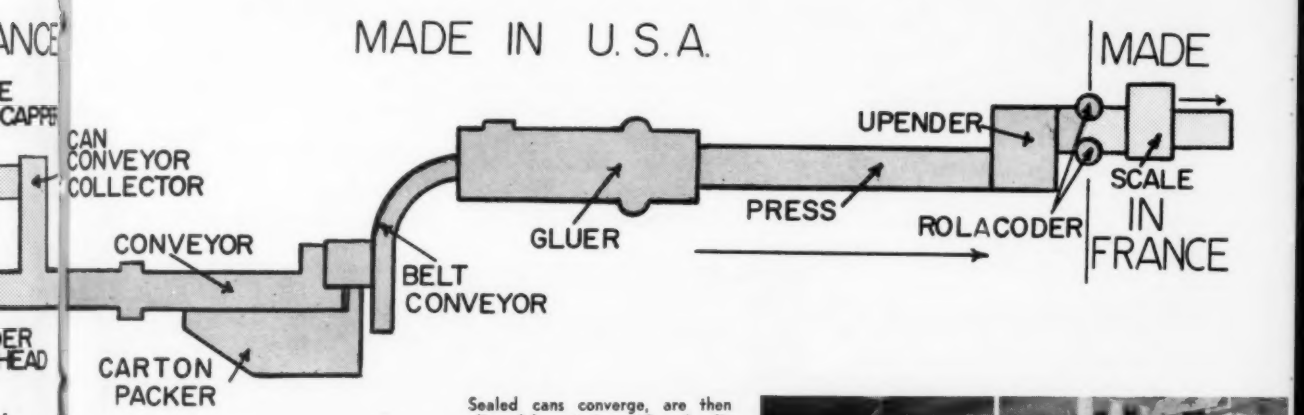
Photographs of Socony Mobil's high-speed filling and packaging operation for one-gallon rectangular cans at its Paulsboro, New Jersey plant intrigued the management at Mobil Oil Francaise's plant at Gravenchon. The possibility of streamlining their plant's filling and packaging of two-liter (approximately one-half gallon) rectangular cans was interesting, as this package has a high sales volume in France.

After preliminary discussions, the Mobil Oil Francaise representatives sent Socony Mobil's engineering department in New York an outline of existing packaging line equipment and manpower requirements together with projected requirements. At the same time, Francaise requested New York to furnish information on existing equipment which might satisfy their needs.

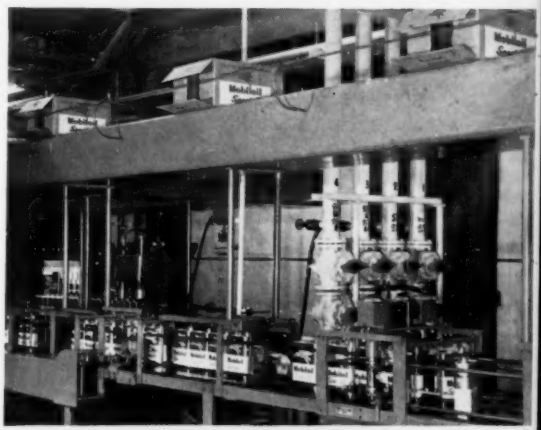
Mobil Oil Francaise also sent the engineering department several samples of the rectangular cans it used and the corrugated shippers for them. *(Turn page)*

Empty cans are unloaded from reshippers onto the distributor table, which moves them forward six at a time to filling line. Overhead belt-powered conveyor carries empty reshippers to packing station. Two 6-spout in-line fillers fill over 5000 half-gallon cans/hr. Dual-head cap sealer crimps single-unit aluminum closure with die which threads cap onto threaded spout.

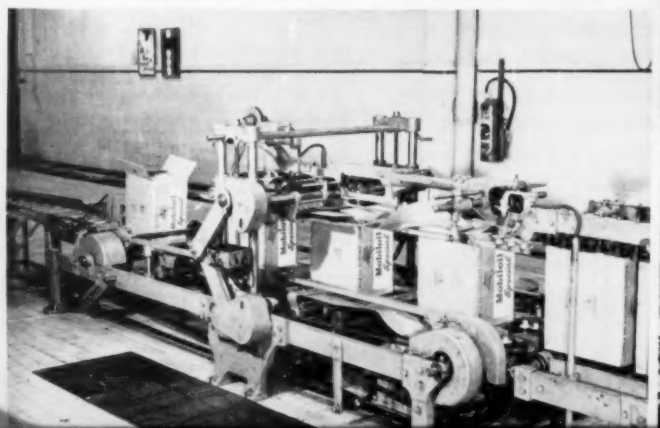




Sealed cans converge, are then aligned by rotating 90° and split into two lanes for case packing.



Cans are packed 12 at a time into reshippers retrieved from end of overhead conveyor and conveyed to gluer-compression unit, which handles over 400 cases/hr. End-opening reshippers are rotated 90° so Rolacoder can imprint grade designation on ends. Cases then pass over scale for spot checking gross weights.



Immediately the engineering department in New York went to work analyzing Gravenchon's requirements. Shortly Gravenchon received some literature and engineering estimates on equipment for a two-liter rectangular canning line capable of filling, sealing, capping, packing and gluing boxes—at a rate of 100 cans/min.—along with samples of domestic and V3C corrugated board boxes.

Study Program

At this point both organizations entered a period of intensive study and testing. The New York engineers began determining what changes and modifications could adapt the existing package to high-speed packaging techniques.

Two different suppliers furnished Mobil Oil Francaise with two-liter rectangular cans. While there were some deviations in dimensions between manufacturers, these were not of real significance. Francaise closed both the two-liter and four-liter can sizes with a single-unit aluminum closure: the cap and inner seal, placed as a unit on the threaded can spout, is crimped in place with a die which threads the soft aluminum cap.

For domestic use, Mobil Oil Francaise packaged 12 two-liter cans in a side-opening corrugated box with full flaps with five corrugated partitions separating the cans. Insertion of the cans and partitions was a completely manual operation.

For export shipment to French West Africa, Gravenchon packed 10 four-liter cans in a nailed wooden case. This, too, was a manual operation.

Tests And Comparisons

It was apparent that if automatic packing equipment were to be

J. A. McAuley has been with Socony Mobil for 22 years. Before assuming his present position, assistant senior engineer, he was associated with various phases of blending and packaging plant operations and engineering. Mr. McAuley is a member of Society of Packaging and Handling Engineers and National Security Industrial Association.

J. R. Mallard has been associated with Mobil Oil Francaise since 1928. He has served in various functions related to the compounding plant, as chief operator of refining units, building engineer, and is now chief of the package filling and shipping service.

PROXMELT®

• **PROXMELT** molten laminating adhesives yield economical, fibre tearing, grease and moisture proof combinations when used to attach glassine, grease-proof, foil, films, and parchment to boxboard.

• **PROXMELT** adhesives and laminating compositions are available both "ready to use" and as concentrates which are added to paraffins, micros, and resins. You need no costly dispersing machinery or high temperature apparatus to successfully employ Proxmelts in the fabrication of cookie caddies, detergent cartons, cannister caps, etc.

• **PROXMELT** is applied at moderate temperature; conventional laminating, pasting, and waxing machines are readily adapted to apply Proxmelt. Proxmelt formulas are amenable to FDA Regulations.

Write or phone the nearest Pyroxylin office for list of concentrates, starting formulas, and technical assistance.

PYROXYLIN PRODUCTS, INC.

CHICAGO 32 Virginia 7-4800 | PAOLI, PENNA. Niagara 4-4141

ALSO:—MEXICO D.F.

Pyroxylin PRODUCTS, INC

Clean as a whistle- and ready for work

...thanks to Kodapak "STOP-LOSS" packaging!

Stop-Loss packaging? What's that? What does it mean?

Actually, "Stop-Loss" describes special packaging in a very special, tough, crystal-clear material . . . Kodapak II Sheet.

In this instance, Holland Industries, Inc., (Buffalo, N.Y.) picked Kodapak II to package Champion's Spark Plug Gauge and Tool in groups of ten blisters each to a self-seller display card.

Result: Skin-tight protection from dust, dirt and moisture . . . plus complete visibility! This keeps merchandise fresh and clean, assures fast *unit-sell*, stops loss from both shop-wear and pilfering. At the same time, protecting blister is easily removed by purchaser. For more about Kodapak II and packaging, see our representative or write:

EASTMAN KODAK COMPANY
Plastic Sheeting Division, Rochester 4, N.Y.

Sales Offices: *New York, Chicago, Atlanta.* Sales Representatives: *Cleveland, Philadelphia, Providence.* Distributors: *San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).*

Kodapak SHEET

"Kodapak" is a trademark for Eastman's plastic sheet.

used, the five corrugated partitions would have to be eliminated. To reduce the length of gluing equipment and to effect a reduction in corrugating media, Socony Mobil engineering suggested redesigning the carton for 12 two-liter cans.

Engineering determined the optimum construction to be an end-opening carton of the regular slotted type and passed the suggestions on to Paris along with samples of the new carton. At the same time, samples of recommended water-resistant adhesives were sent to France for comparison with materials obtainable locally.

In the meantime, Mobil Oil Francaise had been making test shipments of cases without corrugated dividers but found the can lithography was being marred. Use of better-grade lithography and a nonscuffing varnish (applied over the lithography) corrected this condition.

The Gravenchon plant also made test shipments to West Africa of 6 four-liter cans packed in V3C board and overpacked with a wirebound wrap-around crate. This package was a replacement for the 10 four-liter nailed wood case.

Mail Settles Points

Correspondence between Socony Mobil in New York and Mobil Oil Francaise in Paris settled the following points:

1. Can specifications would call for better grade lithography with a nonscuffing varnish overcoat; otherwise no change.

2. No change in closure made. The same aluminum cap and seal unit would be crimped on both can sizes as previously.

3. The domestic shipment box for 12 two-liter cans would be end-opening regular-slotted 200-lb.-test corrugated fibreboard; no partitions.

4. The export shipment box for 6 four-liter cans would be end-opening regular-slotted V3C board, overpacked (when necessary) with a wirebound wrap-around crate.

5. The filling and packing line for two-liter cans should be automatic, designed to handle 100 cans/min.

6. A separate filler would be used for four-liter cans in conjunction with a hand-operated packaging and gluing operation, rather than try to merge these into the two-liter line.

7. On the basis of equipment specifications and prices submitted by Socony Mobil, Mobil Oil Francaise would determine what equipment could be purchased in France to fulfill design conditions.

Order Line Components

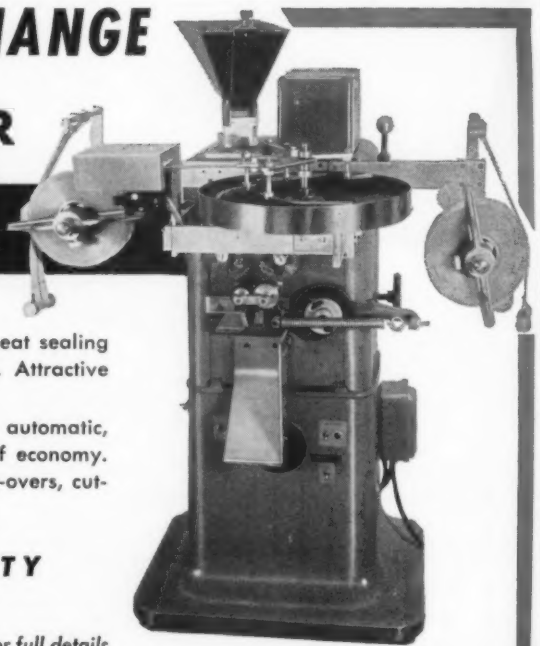
Mobil Oil Francaise's engineering group carefully reviewed the line layout drawings made in New York and decided to purchase the following equipment (see line diagram):

Two filling machines having a total capacity of 5,000 cans/hr. —manufactured by Scomavia, France.

Two cap-sealing machines having a total capacity of 5,000 cans/

NEW QUICK CHANGE TABLET PACKAGER

FAST — ECONOMICAL
IDEALLY SUITED FOR SHORT RUNS



For tablets and capsules — all sizes. Use most heat sealing materials. Capacity — 250 tablets per minute. Attractive packages — in strips or singles.

The new Quick Change tablet packager is an automatic, medium speed machine featuring a maximum of economy. The versatile design provides simple, fast change-overs, cutting costly down-time and increasing efficiency.

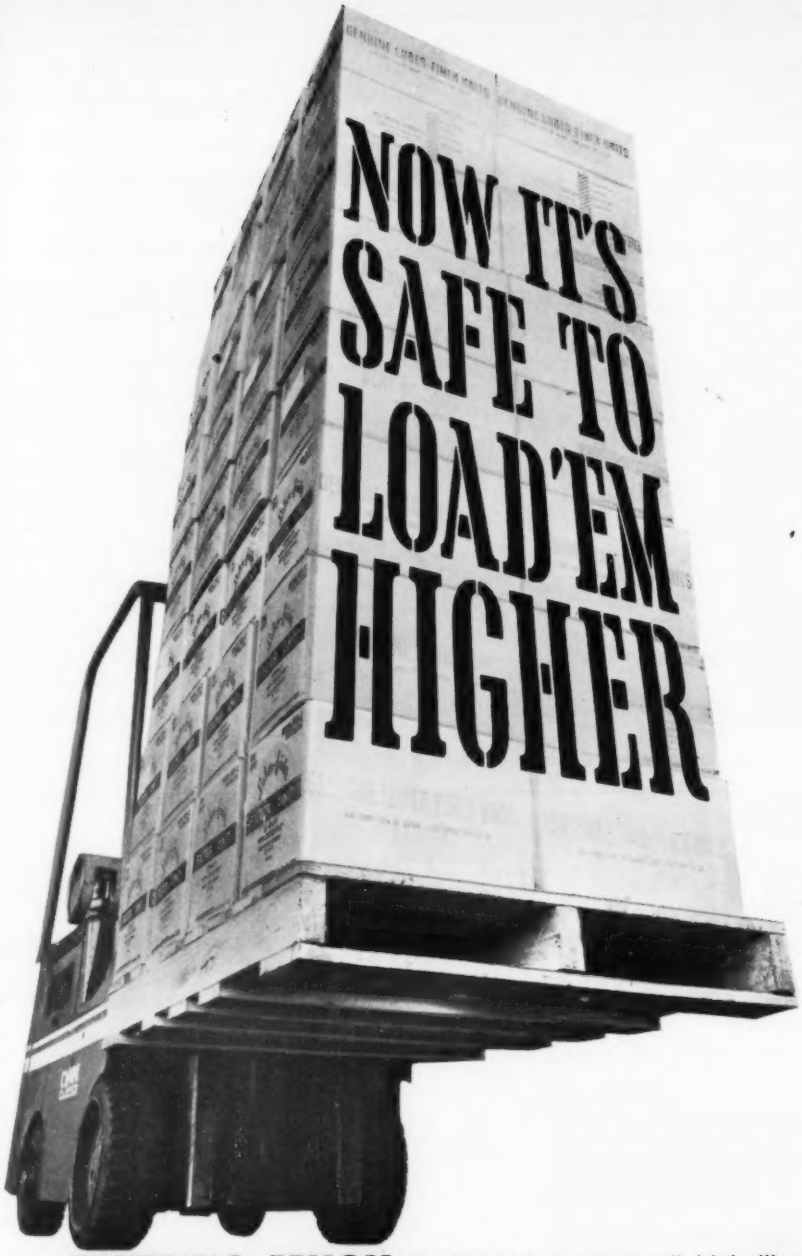
FLEXIBILITY • RELIABILITY

wrap-ade SINCE 1932

Investigate — Send product samples for full details

MACHINE CO., INC.

188 SARGEANT AVENUE • CLIFTON, NEW JERSEY • PRESCOTT 3-6150



THERE'S MUCH LESS CHANCE OF SLIPPING WHEN CARTONS ARE FRICTIONIZED WITH DU PONT LUDOX®

Coatings of "Ludox" colloidal silica give a carton millions of invisible grip points. So you can load fork lifts higher—work faster. Breakage is cut way down. Remember you can store pallet loads higher, too. ■ A growing number of box suppliers offer this anti-slip treatment. So next time you order, specify cartons frictionized with "Ludox"—or write direct to Du Pont for free booklet and list of suppliers of treated boxes, 2545 PG Nemours Bldg., Wilmington 98, Del.

LUDOX® DU PONT
colloidal silica
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

For more information circle No. 252 on Reader Service Card

hr.—manufactured by Scomavia, France.

Two conveyor systems (one for empty cases and one for filled cases)—manufactured by Scomavia, France.

One automatic packer manufactured to New York engineering department specifications by Emhart Manufacturing Co., U.S.A.

One top-and-bottom gluing unit—manufactured by Emhart, U.S.A.

One compression unit—manufactured by Emhart, U.S.A.

One Rolacoder in-line printer—manufactured by Adolph Gottscho, Inc., U.S.A.

One can-conveyor system to connect filling machines to packer unit—manufactured by Emhart, U.S.A.

Mobil Oil Francaise sent layout drawings and specifications for all the French equipment to the engineering department in New York along with necessary authorizations to purchase equipment to be fabricated in the U.S.A.

The automatic packer was designed along the lines of one purchased about a year earlier for the Paulsboro, New Jersey plant, but modified so that the Gravenchon plant could use two filling and capping machines. Consequently, two lines of filled cans had to converge, and the spouts had to be registered prior to entering the packer.

Ship U.S.-Made Machines

Socony Mobil's New York engineering department maintained close liaison with Emhart in the design of the packer. Within four months of ordering, the packer was assembled at Emhart's Portland, Conn. plant, and Socony Mobil engineers inspected and approved it for shipment. Erection drawings were marked showing the points at which the packer and its attendant conveyor system would be dismantled for export crating and shipping. Socony Mobil then photographed the assembled unit and marked these same points on the prints. Mobil Oil Francaise found these photographs of great assistance in reassembling the packer at the Gravenchon plant.

Operation and maintenance manuals for all U.S.-made equipment were drawn up and forwarded to France along with parts lists of all equipment components.

Line Really Works

Mobil Oil Francaise received and installed this equipment with no more trouble than if it had been designed and purchased locally. The line was completed late in 1958 and all of the equipment—both of French and U.S. manufacture—has operated satisfactorily ever since.

In addition to a labor saving, the Gravenchon plant has realized a material savings in the cost of both its domestic and export shipping packages.

This modern filling line is an existing proof of what can be accomplished by good channels of communication for the exchange of experience and ideas. *(End)*

Is this how your customer receives his merchandise?

and TARNISH on ALL METALS

ORCHARD INHIBITOR PAPERS

Orchard, pioneer in this new field of packaging, has developed inhibitor papers that, alone or in combination, give maximum protection against rust, corrosion or tarnish. As a result, Orchard Inhibitors are specified by more and more packaging and material handling engineers for more and more uses.

Orchard Inhibitor papers save time, save money. Clean and easy to use. Merely wrap around the products that need protection.

ORCHARD VPI® PAPER
Recommended for use on ferrous metals. Completely effective in a closed package even if it is as much as a foot from the metal to be protected.

ORCHARD SILVER SAVER®
Prevents tarnish on silver or silver plated parts. Provides economical protection under the most severe atmospheric conditions. Non-toxic.

ORCHARD COPPERTEX®
Protective paper for the packaging of copper and copper alloys, such as bronze and brass. Used by many industries. Compatible with most other metals.

ORCHARD ALUMITEX®
Impregnated interleaving paper which prevents water stains on aluminum in stacks of flat sheets. Effective also on galvanized steel and other metals.

ORCHARD RAPIT-SEAL®
Cold-sealing method accomplished with a non-abrasive latex coated sheet that sticks only to itself. Makes package that is moisture-resistant, dust proof.

MAGNA FILM® CORROSION INDICATOR
An indicator visual or electrical to indicate actual corrosion—not just humidity.

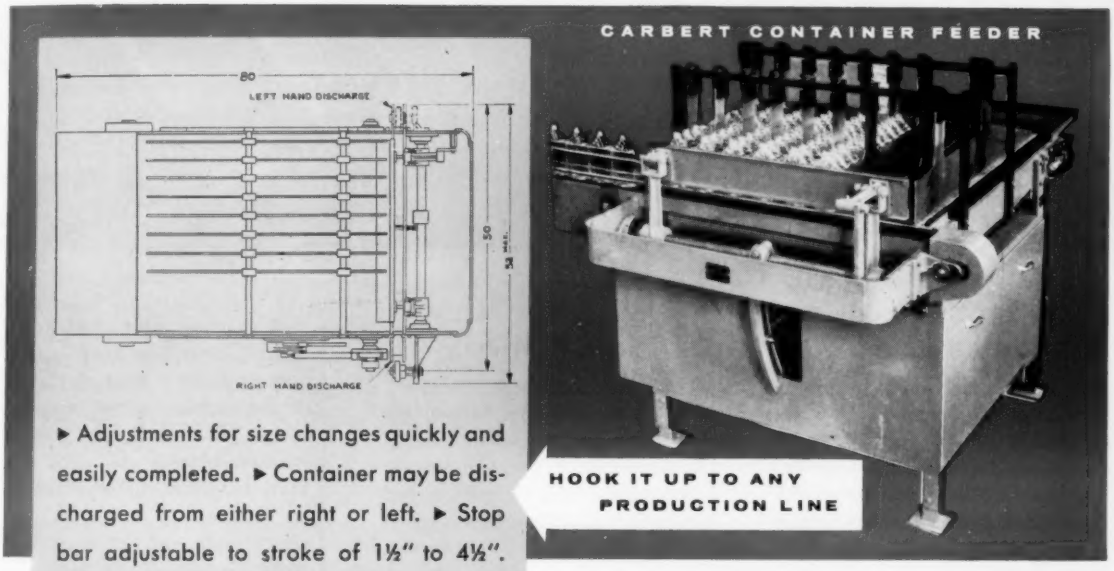
Write for details.
An Orchard packaging engineer is available for consultation.

ORCHARD PAPER COMPANY
INDUSTRIAL PRODUCTS DIVISION, DEPT. PE
St. Louis 15, Missouri

SAINT LOUIS · POTSDAM · LAKE CITY · LOS ANGELES · ORCHARD · TREE TO TRADE

LINES THEM UP FOR ORDERLY FEEDING

low cost unit simplifies "unscrambling"



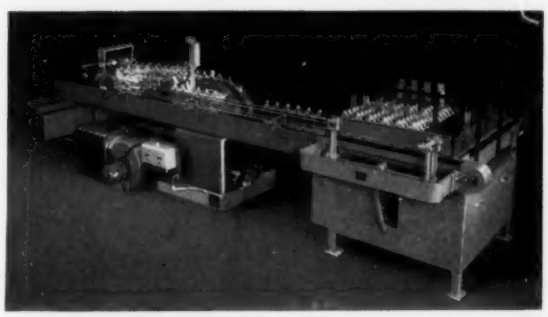
▸ Adjustments for size changes quickly and easily completed. ▸ Container may be discharged from either right or left. ▸ Stop bar adjustable to stroke of 1½" to 4½". ▸ Simple, rugged construction and minimum maintenance. ▸ Speeds, up to 30 cycles per minute.

FOR LARGE VOLUME PRODUCERS

There's been a big and growing need for this relatively small, low cost unit. Hooked onto any production line it "organizes" the containers and gently regiments them into the proper single line groups for fast, smooth feeding to the next operation.

Get all the facts. Send for bulletin 143.

PNEUMATIC SCALE CORPORATION, LTD., 77 Newport Avenue, Quincy 71, Mass. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company at Los Angeles, San Francisco and Seattle. Rockwell Pneumatic Scale Ltd., Edgware Road, London, N. W. 2, England, O. R. M. A., Paris, France. Carbert Manufacturing Co. Division, Cambridge, Mass. Delamere & Williams Co., Ltd., Toronto.*



PNEUMATIC

Packaging and Bottling Equipment

ANNOUNCEMENTS

OF MACHINERY AND PRODUCTS

A SERVICE TO READERS: The manufacturers of the products reviewed in this section will send additional information on those which interest you. Circle the number on the postcard (inside front cover) which corresponds to the code number with the item's headline. Mail the card—or write direct to the manufacturer.

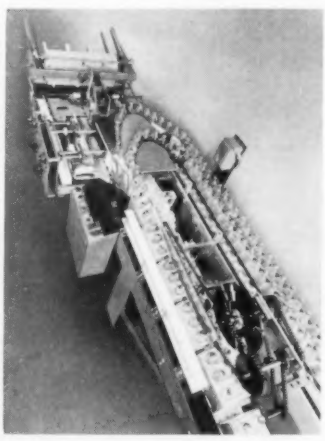
1—Bacon Package

A new bacon package design, combining maximum product visibility with the convenience of a reclosable carton, has been developed. This new Show Pak unit has a construction similar to that of other overwrapped bacon packages and can be handled on standard overwrapping equipment. This carton features a back flap that folds out and over the front of the pack when the cellophane overwrap is removed by the consumer. This protective cover locks on top of the carton for reclosing. Another feature pointed out by the developer is that this container has as much as 50 per cent more product visibility than window-type cartons, yet the package retains the reclosable features of the window-type bacon container. In addition, material costs are as much as 10 per cent lower than the cost of window cartons, and specially-designed equipment is not needed for automatic overwrapping, according to the manufacturer's announcement.

Circle code number on card or write: E. I. du Pont de Nemours & Co. (Inc.), Dept. PE, Film Dept., Wilmington 98, Del.

2—Bottle Carrier

Introduced is a new "one-way" multipack cartoning system for bottles and cans. This new method consists of the Commando cartoning machine which has been designed for medium-speed production (up to 280 bottles or



360 cans per min.) and a new carrier-type of carton. In addition to handling the common 2x3 six-pack unit of 12-oz. containers, it can be converted to carton units of from 1x2 to 2x4 patterns of 6 to 16 oz. bottles or cans. The cartoning machine is a continuous-motion straight-line cartoner and it can operate either adjacent to or at the end of a production line. The kraft cartons feature positive locks on the top of the cartons to hold the bottles in place and solid bottoms with no locks or glue. The solid kraft board is coated white on the outside.

Circle code number on card or write: Weyerhaeuser Co., Boxboard & Folding Carton Div., Dept. PE, 919 N. Michigan Ave., Chicago 11, Ill.

3—Skin-Pack Film

Recently developed is a new self-adhering polyethylene film for skin packaging. An unsupported type of film, it is 0.003-in. thick It was formulated to provide adhesion to uncoated paperboard stock, desirable thermoforming characteristics, strength, gloss, and transparency, the manufacturer reports. This film bonds to the board stock by adhering to the individual paper fibers. The maker states that, as a rule, the film works better on the less expensive paperboards, e.g., chipboard, because of its bonding characteristics.

Circle code number on card or write: Continental Can Co., Inc., Dept. PE, 100 E. 42nd St., New York 17, N.Y.

4—Laminating Adhesive

A new adhesive for laminating polyethylene sheeting to burlap is said by the manufacturer to speed the production of water-resistant protective storage covers and the like. Designated Polygriptex, this water-based adhesive for laminating can be used in the packaging of fertilizer, grain, flour, and other similar products requiring protection from moisture. The white adhesive compound may be applied by brush, spray, or cementing machines. Only one-side wet application of the adhesive is needed to form a permanent bond which will withstand high and low temperatures and remain flexible, according to the manufacturer. It is available in 1-, 5-, and 55-gal. containers.

Circle code number on card or write: Adhesive Products Corp., Dept. PE, 1660 Boone Ave., New York 60, N.Y.

5—Beaded Cans

A new process in the production of metal cans gives the container additional strength for both pressure and vacuum resistance, the manufacturer reports. Called the Tri-Cluster bead arrangement, this new development produces a series of three clusters of circumferential beads on the body of a metal can. The beading process is done by pressure rolls applied to flat metal before the can is formed. Linked to the earlier development of new thin steels for cans, this new process enables the producer to use this thin steel in a greater variety of cans. The manufacturer says that this new style of beading produces a sturdier can with more panel resistance and better crush resistance. Another feature is that the cans have more flat space permitting a greater holding or adhesive area for labels.

Circle code number on card or write: National Can Corp., Dept. PE, 3217 W. 47th Pl., Chicago 32, Ill.

6—Extended Can-End Feed For Seamer Or Closer

A new positive extended can-end feeding device has been introduced. It is designed for fast simple mounting and is said by the manufacturer to fit any style of can seamer or closing machine. This new unit provides a storage capacity of up to 2,200 can ends and it permits one man to handle two or more seamers, depending on the physical layout of the closing machinery. Called the Model DF-200 Downstacker, it handles a full range of can ends ranging from size 202 through 502 in diameter. The device uses the principle of a high-frequency vibration feed in conjunction with a permanent non-electric double-disc-flanged magnetic wheel for controlled feed of the can ends to the seamer or closer. The standard models incorporate an 8- or 12-ft. long rigid V-type trough with a vibrator. A control device permits selection of vibration feed the length of the trough. Because of the design of the feeding trough, no adjustments are required for handling various can-end diameters. The magnetic wheel, which is automatically regulated to the speed of the closer or seamer, provides a continuous transfer of can ends from a horizontal to a vertical plane. The units are adaptable to either high- or slow-speed operations and one adjustment provides for changeover from one can-end diameter to another.

Circle code number on card or write: Trans-Mation Systems, Dept. PE, 4909 E. Florence Ave., Bell, Calif.

7—Transparent Bag Combines Header And Package

Announced is a new rack display bag called the Polycleer Rak-It-Pak. This bag combines both the package and the header in a one-piece construction and the header is reinforced with polyethylene. This package provides dustproof protection for the product and eliminates the need for either a paper header label or paperboard insert. According to the producer, this package reduces the labor of filling and sealing by 40 to 60 per cent. The bag is filled from the bottom and heat sealed. This package can be specified with a perforation for ease in opening and used as a dispenser. The manufacturer designs, pro-

WHEN THE PRODUCT YOU PACKAGE IS

STICKY

PATAPAR RELEASING PARCHMENT WILL PROVIDE THE "LET-GO" YOU NEED

Here, the packager has to worry about a substance whose moisture and sugar content results in extremely adhesive qualities . . . but the product must never stick to its container. Patapar Releasing Parchment provides the needed combination of resistance to moisture and sugar penetration, and low adhesion factor.

Other Patapar Releasing Parchments provide quick release for foodstuffs such as frozen meats, where ice makes separation difficult . . . plastics, where extreme temperatures and inherent tackiness make it necessary to include the releasing parchment in the production process . . . and adhesive materials, where the product can stick to itself or its user.

Send for free samples of Patapar Releasing Parchments and informative brochure describing the whole Paterson line of Releasing Parchments.

Patapar®
RELEASING PARCHMENT

PATERSON PARCHMENT PAPER COMPANY
BRISTOL, PENNSYLVANIA

Sales Offices: New York, Chicago, Sunnyvale — West Coast Plant: Sunnyvale, California

duces, and color prints this package in a wide range of sizes, styles, and film gauges.
Circle code number on card or write: Northland Bag Corp., Dept. PE, 53 School St., Yonkers, N.Y.

8—Aerosol Crimper

A new combination plunger and crimping tool for aerosol product packagers has been introduced. According to the manufacturer, this tool has crimped over 500,000 cans while maintaining crimping tolerances, and there were no hang-ups or pick-ups. The combination crimper assembly, Model No. APCR1, is designed for standard 1-in. can valves. When the plunger drops, it expands six segments for the crimping contact. When the plunger withdraws, these segments snap back into position for positive release of the can.

Circle code number on card or write: Aerosol Products, A Div. of Royal Products, Dept. PE, 86 Ames Ct., Plainview, L.I., N.Y.

9—Pressure Former

A new machine automatically pressure-forms containers and blister packs from biaxially-oriented polystyrene and other plastic roll-stock films. This machine forms round, square, and rectangular containers and automatically die-cuts them. Called the Model APM 14-1, its forming area measures 13 x 14 in.

and it has a production cycle of up to 8 cycles/min. A feature cited by the manufacturer is the low cost of the tooling, molds, and cutting dies. The pressure former will handle clear or opaque materials in thickness from 0.002 to 0.030 in.

Circle code number on card or write: Abbott Plastic Machine Corp., Dept. PE, 5726 Broadway, Chicago 45, Ill.

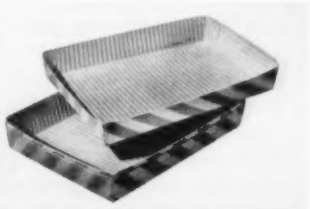
10—Polyethylene Resins

Announced is a new series of Hi-fax high-density polyethylene resins. The supplier says that this makes possible the low-cost production of sturdy 1-gal. containers with rigid thin walls, or containers of even larger sizes. The rigidity of this new plastic allows the molder to lower material costs by reducing the wall thickness of the container without sacrificing strength, the supplier states. Uses for this new 0.962-density polyethylene include blow-molded containers for household products, production of monofilaments, rigid sheets for vacuum forming and injection molding. The new resin will be supplied in three different melt indexes and is said by the maker to have a superior surface gloss and sharper light transmission.

Circle code number on card or write: Hercules Powder Co., Inc., Dept. PE, 910 Market St., Wilmington 99, Del.

11—Bakery Pan

A new corrugated glued bake-in pan has been developed to eliminate the need for a separate oven pan and sales tray. This oven-ready Corro-Pan features built-in corrugations that



THERMOGRIP®

Helps Make Packages

PILFER-PROOF!

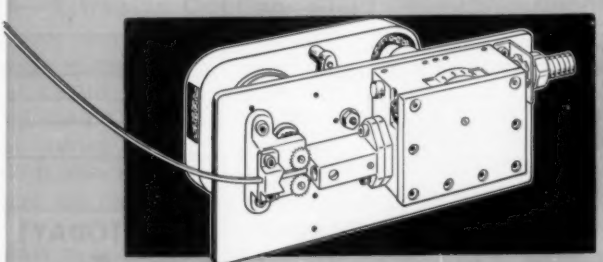
EASY OPENING TOO!

You can now change over fast tuck flap cartoners to produce firm, pilfer-proof glued flap closures. No basic change of equipment. No decrease in machine speed. The key is THERMOGRIP hot melt adhesives and compact THERMOGRIP applicators.

This combination solves both sealing and space problems at once. A variety of patterns — dots, dashes, strips or combinations — can be selected that provide strong continuous seals or easy opening styles. Patterns can be adjusted to provide for reclosing tabs, too.

Compact THERMOGRIP CW applicators are easily installed on existing equipment. *Instant bonding* means no pressure section is needed, and adhesives can be applied at top machine speeds.

These features make THERMOGRIP the easiest, most economical way to modernize your tuck flap cartoners . . . complete details and typical Field Reports are ready for you now. Send today.



United

UNITED SHOE MACHINERY CORPORATION

B. B. Chemical Company Division • 734 Memorial Drive, Cambridge 39, Mass.

For more information circle No. 255 on Reader Service Card

Package small items the Easy Way!

WITH

jet-pak

CUSHIONED-INSULATED SHIPPING BAG

SAVE TIME, MONEY AND DIRECT LABOR COSTS

Why spend more than 15 seconds in packaging small items?

With JET-PAK, you or your employees can have small items ready for mailing in 15 seconds *or less!* JET-PAK is a simple, complete, *new* packaging idea that eliminates *all* waste motion . . . yet costs *less* to use than any other packaging material.

Simple, easy, fast . . . ready for mailing in 15 seconds or less

INSULATES, PROTECTS, SECURES

The contents of JET-PAK are protected by millions of tiny particles of resilient paper held between double walls of tough, moisture-resistant, asphalt-laminated Kraft paper. JET-PAK prevents damage from handling, pilferage, rain and severe humidity fluctuations. Drop tested by U. S. Post Office. Available in 14 standard sizes. May be inexpensively imprinted at factory per your order.

COMPARE YOUR PRESENT METHOD WITH jet-pak

MODERN PACKAGING REQUIREMENTS	jet-pak	YOUR METHOD
1 High Security	Approved by U.S. Post Office	
2 Low Material Cost	3¾¢ ea.—10M—No. 3 size	
3 Lowest Labor Cost	Average—15 sec. per unit—ready for mailing	
4 Minimum Waste Motion (supplying materials to bench from storeroom)	One item	
5 Low Cost Imprinting	50¢ per 1,000	
6 Simplified Procurement	1 source	
7 Clean and Attractive	Send for free samples	
Book Mailers of Educational Materials	Free imprint on Jet-Pak Book Bags Save on Postal Rates	

SEND FOR SET OF FREE SAMPLES—WRITE TODAY!

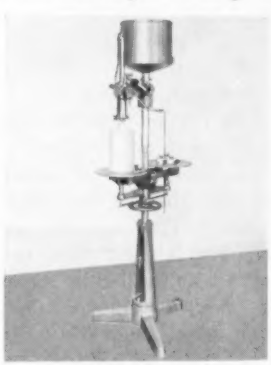
ROPE COLUMBIAN TWINES

jet-pak
Packaging Division
Columbian Rope Company
Auburn "The Cordage City" N. Y.

enable even baking of the bottom of the product. Developed for volume bakers, these pans can be used for brown-and-serve rolls, sweet rolls, cakes, and yeast-raised doughs. The pans are constructed with rigid tapered sides for compact nesting, easy loading, as well as fast overwrapping and sealing, the supplier says. The smooth white outside surface is available in either stock designs or it can be printed. The inside corrugated parchment liner is treated with a releasing agent. *Circle code number on card or write: Sherman Paper Products Corp., Dept. PE, Newton Upper Falls 64, Mass.*

12—Gravity Filler

Incorporating several new design features is the Monoscale gravimetric liquid filling ma-



chine. The fill control is by weight and the machine will handle most wide-necked containers ranging in size from 4 oz. to 5 gal. A primary feature of this machine is that all metal parts contacting the liquid are stainless steel and the machine can be completely dismantled in a few minutes, the manufacturer says. Filling spout changes can be made in 30 sec. and container size changeover can be accomplished in 2 min. Speeds obtainable are from 120 to 1,200 containers per hr. depending on container size, its neck opening, and product characteristics. *Circle code number on card or write: The Karl Kiefer Machine*

Co., Dept. PE, 917 Martin St., Cincinnati 2, Ohio.

13—Carton Coating

A new wax-plastic formulation developed to prevent milk cartons from leaking and flaking is available. Called Sunoco Supreme Dairy Coating, the new product is said by the maker to offer a clear hard finish and gives a positive top seal. Field reports cited by the maker indicate less than one gram of flaking per 1,000 cartons. This product may be applied with conventional coating machinery and is available in standard industry quantities.

Circle code number on card or write: Sun Oil Co., Industrial Products Div., Dept. PE, 1600 Walnut St., Philadelphia 3, Pa.

14—Fibre Container

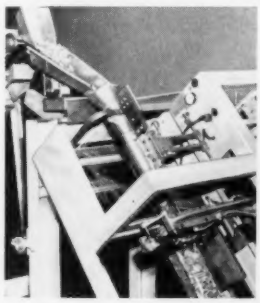
An improved fibreboard container for bread crumbs and similar products is announced. Fea-

tures of this new package include a newly-designed flat-wheel dredge top that is identical on both sides to facilitate machine assembly. The convolute fibreboard body used for this container is made from virgin kraft and it can be paraffin-coated to make it non-porous. Assembly is done on a completely automatic line designed to produce uniform containers at lower cost, the supplier says.

Circle code number on card or write: R. C. Can Co., Dept. PE, 9430 Page Ave., St. Louis 32, Mo.

15—Bag Packager

A new machine that automatically removes crumbs or dust while packaging candy, cookies,



or crackers in a flexible bag is announced. A variation of the Verti-Pak machine, this new model is also designed to prevent fragmentation by providing a sliding movement of the product through the bag-forming tube rather than a sharp drop. As the product empties from a conveyor, it passes over a vibrating screen to remove loose particles. The product then completes its gliding movement into the bag which is formed around it. This machine operates automatically with a bucket conveyor at speeds up to 50 packages/min. from each forming tube. Models are available for cellophane, polyethylene, Pliofilm, polypropylene, and similar materials.

Circle code number on card or write: Mercury Heat Sealing Equipment Co., Dept. PE, 2601 N. Howard St., Philadelphia 33, Pa.

16—Extrusion Coating

A new resin, tailored for extrusion coating and called Marlex TR-515, is available. This high-density polyethylene resin has coating rates in excess of 600 ft./min. on standard equipment and coatings of less than 5 lb./ream. It is said by the maker to resist scuff, temperature extremes, moisture, and grease. Applications mentioned are coatings for multiwall bags and pouch papers; coated films

FAST PACKAGE SIZE CHANGEOVER FOR FROZEN FOODS

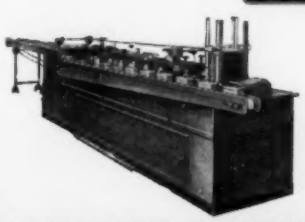
WITH CECO MODEL 40LL

AUTOMATIC CARTONER

- *Changeover from one size to another takes less than ten minutes.*
- *Handles any size frozen food package at speeds up to 90 per minute.*

Here at relatively low cost is the perfect combination of speed and flexibility. With the product inserted manually, the Ceco Model 40LL handles edge lock or center lock cartons fully automatically from hoppering through closing. For full details write for Model 40LL Brochure.

CECO



CONTAINER EQUIPMENT CORPORATION

78-88 LOCUST AVENUE, BLOOMFIELD 3, N. J.

Circle No. 257 on Card

Your
SOABAR MAN* recommends...

"Out-dated marking methods can tie profits in a knot. It's true! Old-fashioned devices cost more than just the price of pencils, pens, rubber stamps or obsolete equipment. Hours of marking time only result in smudgy, hard-to-read information at best. With SOABAR automatic label marking equipment you have inplant marking that's split-second and accurate . . . avoid unnecessary inventory of pre-printed tags and labels . . . eliminate waste of unusable or out-dated tags and labels . . . imprint neat, legible labels that help keep merchandise current and salable. Ask your SOABAR MAN next time he calls about SOABAR completely flexible marking methods."

* **Thomas Fitzgerald, District Manager, Chicago, Ill., one of 36 SOABAR marking specialists conveniently located throughout the U. S.**

Soabar COMPANY
Specialists in Marking Equipment and Roll Tickets and Labels Since 1912
7722 Dungan Rd. • Phila. 11, Pa.

and foils where low moisture-vapor transmission is desired; and paperboard products such as frozen food packages, folding cartons, and corrugated board.
Circle code number on card or write: Phillips Chemical Co., Dept. PE, Bartlesville, Okla.

17—Multiwall Bags

Multiwall paper bags instead of burlap are now being used by citrus pulp producers for packaging cattle feed. These 100-lb. bags are made from a new extensible paper (made by Scott Paper Co. and called Expanda Kraft) and are the sewn open-mouth type measuring 25 x 6 x 48 in. According to the report, the built-in stretch and anti-skid properties of the paper match burlap bags in ease of handling and ability to be stacked. Other features are that the initial cost is about 8½ cents less per bag than burlap and pest infestation is greatly reduced, according to the supplier.
Circle code number on card or write: Owens-Illinois, Mutiwall Bag Div., Dept. PE, P. O. Box 1035, Toledo 1, Ohio.

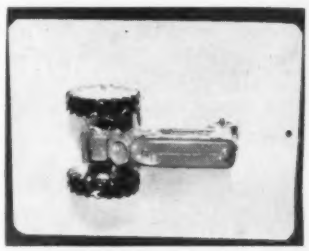
18—Electronic Counter

New is a predetermining electronic counting device called the Tally Count Model TC-850.

According to the manufacturer, its main features are low cost, simplicity, ruggedness, and flexibility. This presetting counter unit is available in 1-, 2-, 3-, and 4-digit models. The unit's output control relay has heavy-duty contacts designed to handle stop-motion, cut-off actuation, cycle operation, and others. The maximum counting rate of the standard model is 3,000 units/min. and the automatic reset and restart occurs within 0.005 sec.
Circle number on card or write: Standard Instrument Corp., Dept. PE, 657 Broadway, New York 12, N.Y.

19—Skin-Pack Film

Drapex III is a new skin-packaging film developed for use with uncoated and unperforated



paperboard. According to the supplier, this new film combines clarity, strength, and superior ability to conform to the shape of the product being packaged. Because of these properties, the supplier believes that this film makes possible skin packaging of many cosmetics, hardware, tools, toys, and industrial parts which (because of their shape or weight) could not previously be packaged by this technique. The gauge of this film is 0.003 in.
Circle code number on card or write: Riegel Paper Corp., Dept. PE, 260 Madison Ave., New York 16, N. Y.

20—Label Paper

IMAC APC label paper, a new heat-seal grade designed to meet the requirements of labeling bakery products packaged in plastic films and other materials, is announced. With properly controlled heat and pressures, the manufacturer says this label paper will provide trouble-free adherence over a range of temperatures from 45° to 115°F. and from 20 to 80 per cent R. H. The label adhesive is suited to 2-phase labeling machine opera-

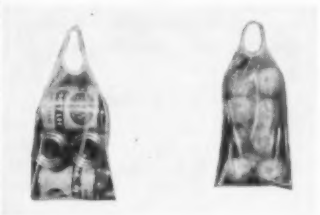
tions as well as labeling which requires simultaneous applications of heat and pressure. These labels bond to cellophane, Pliofilm, saran, polystyrene, and acetate films.
Circle code number on card or write: Nashua Corp., Dept. PE, 44 Franklin St., Nashua, N.H.

21—Case Stapler

Introduced is a new air-operated wide-crown case stapler (Model D16AD) for sealing filled containers from the outside. This stapler is designed for top sealing regular slotted, full overlap, partial overlap, end flap, and other types of corrugated containers. Features of the stapler include a single-adjustment clinch control, a magazine that fits six different staple sizes, and the ability to staple single-, double-, and triple-wall board.
Circle code number on card or write: Bostitch, Inc., Dept. PE, 868 Briggs Dr., East Greenwich, R.I.

22—Bag With Handle

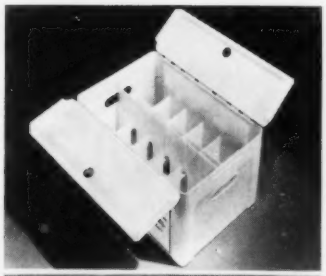
Announced is the development of a combination plastic bag closure and handle. Called the



Whirl-a-Seal, it consists of a strip of die-cut semirigid plastic that forms an air-tight, waterproof, and dustproof plastic bag seal and also serves as a handle—capable of carrying any weight the plastic bag will support. No heat-sealing or other equipment is required as it is applied by hand. This closure-handle combination can be removed and reused repeatedly. It is available in light, medium, and heavy gauges and two or even three separate bags may be sealed into a single handle.
Circle code number on card or write: Better Containers Manufacturing Co., Dept. PE, 2646 W. Madison St., Chicago 12, Ill.

23—Plastic Cases

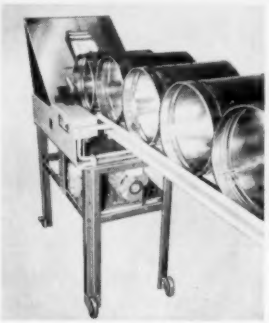
Now available are plastic cases for bottled beverages. Injection molded of high-density poly-



ethylene, the cases or shells offer a combination of improved properties, the developer says. These plastic shells weigh less than half the weight of wooden shells. The announcement reports that the compound used to fabricate the one-piece shells has a high tensile strength over a wide range of temperatures, it has excellent color stability, and will not crack or warp under normal usage. Three models of the plastic shells are available—two for soft drinks and one for bottled beer.
Circle code number on card or write: Union Carbide Plastics Co., Div. of Union Carbide Corp., Dept. PE, 270 Park Ave., New York 17, N.Y.

24—Labeler

An automatic container labeling machine with an electronic feed for speeding up the label-applying process on a diversified product line has been introduced. According to the manufacturer, this machine (Model 12) is designed to fill the need



of an intermittent labeling machine capable of handling container sizes up to 5 gal. on a diversified production line. The Model 12 can affix spot, face, or wrap-around labels on metal, glass, plastic, or fibreboard containers. The labeler is portable, has a label register mechanism, and variable speed control.
Circle code number on card or write: Labelette Co., Dept. PE, 216 S. Jefferson St., Chicago 6, Ill. *(End)*

Stop costly overweights and save on packaging labor with the right model of Gump Packaging Equipment. Speedy, highly accurate Bar-Nun "Auto-Check" and Edtbauer-Duplex Weighers (illustrated) for manual lines. Automatic Bar-Nun Bag Packaging Equipment, and Can, Jar or Carton Lines save on packaging labor as well as product. Extremely dependable operation—accuracy guaranteed.

Choose equipment to suit the job. Write for recommendations, without obligation. Tell us the material, weight, container, and production requirements.

B. F. GUMP CO.
1346 S. Cicero Ave., Chicago 50, Ill.

INDUSTRY LITERATURE AVAILABLE FREE

1. Before each item heading is a code number. As you select items on which you want more information, *note* this number.
2. Now *circle* the corresponding numbers on the postcard inside the front cover.
3. Next, *fill* in your name and address.
4. Then, *mail* the card—we pay the postage.

For your convenience, we have also included addresses of suppliers so that you may write directly for more information.

101—Corrugated Boxes

Literature recently released gives a word and picture tour of this company's newest plant. This plant manufactures corrugated containers, and machines installed in the plant include printer-slotters, slitters, joining, gluing, and waxing machines. It also has a department for box design and development. For a copy of this publication write: Hoerner Boxes, Inc., Dept. PE, 600 Morgan St., Keokuk, Ia., or *circle number on card.*

102—Foil Containers

A 16-page brochure covering aluminum rigid foil containers is now available. This booklet illustrates many of the end uses for aluminum pans and containers for frozen foods, bakery, dairy, and other products. Other information includes: advantages of these containers, types of covers and lids, how they are measured, and equipment used in conjunction with them. To receive a copy write: Kaiser Aluminum & Chemical Sales, Inc., Foil & Container Div., Dept. PE, 919 N. Michigan Ave., Chicago 11, Ill., or *circle number on card.*

103—Bagging Machines

Bulletin No. 21 describes new machines which load plastic bags (Model M-40) and seal the filled bags (Model 1010). These machines are automatic and only one operator is required for the loading machine. Speeds of up to 40 packages/min. can be obtained. Applications, features, and specifications are noted. For this bulletin write: Carbert Manufacturing Co., Div. of Pneumatic Scale Corp., Ltd., Dept. PE, 143 Sidney St., Cambridge 39, Mass., or *circle number on card.*

104—Frozen-Stick Packaging

An 8-page brochure describes and illustrates machinery for making and packaging ice cream novelties. This equipment automatically fills the molds, places the sticks, freezes the product, dips them, places the items into bags (which can be left open or sealed), and washes the molds. To receive this Bulletin No. CMD-V601W write: Food Machinery & Chemical Corp., Canning Machinery Div., Dept. PE, P.O. Box 1120, San Jose 8, Calif., or *circle number on card.*

105—Bag Adhesives

A booklet outlines 20 different adhesives designed for a variety of uses ranging from large mattress bags to small plastic bags used for food products or small hard goods lines. It describes adhesives developed for packages ranging from easy-to-glue kraft bags to foil-type bags requiring high moisture and humidity resistance. Also described are varieties of pastes for bag seams and bottoms, multiwall bags, and laminated bags. For this booklet write: H. B. Fuller Co., Dept. PE, 255 Eagle St., St. Paul 2, Minn., or *circle number on card.*

106—Bottle Washing Machine

A new catalog, No. 161W, describes 13 different washing machines for vials, bottles, and ampuls. It also tells about a new high-speed line for automatically washing vials. This includes loading, conveyorized washing, and discharge. A silicone-coating machine and silicone-coating attachments for standard type vial and bottle washers are also described. For this literature write: Popper & Sons, Inc., Dept. PE, 300 Fourth Ave., New York 10, N.Y., or *circle number on card.*

107—Packaging Abstracts

PACKAGE ENGINEERING magazine offers a data sheet describing *Packaging Abstracts,* a monthly publication which abstracts articles about packaging from some 200 magazines from all over the world. Each issue has 18 sections of topics pertaining to raw materials, adhesives, coating treatments, shipping containers, etc. For more information write: Package Engineering, Dept. PE, 185 N. Wabash Ave., Chicago 1, Ill., or *circle number on card.*

108—Paperboard Partitions

Detailed information and samples are available on pre-assembled paperboard partitions for protective interior packaging. A variety of types are custom made to user needs and specifications. For such information write: Peter Partition Corp., Dept. PE, 124 Boerum Pl., Brooklyn 1, N.Y., or *circle number on card.*

109—Wrapping Machines

Automatic wrapping machines are described and illustrated in a 6-page brochure. Packages to be wrapped may be fed automatically or by hand to the machine. It in turn cuts individual sheets of paper, film, or foil wrapping material from roll stock. These machines wrap nearly any size or shape of carton, tray, U-boards, or many unsupported products items. One model is equipped to handle shrink-type films. For this brochure write: Hayssen Manufacturing Co., Dept. PE, 13th & St. Claire, Sheboygan, Wis., or *circle number on card.*

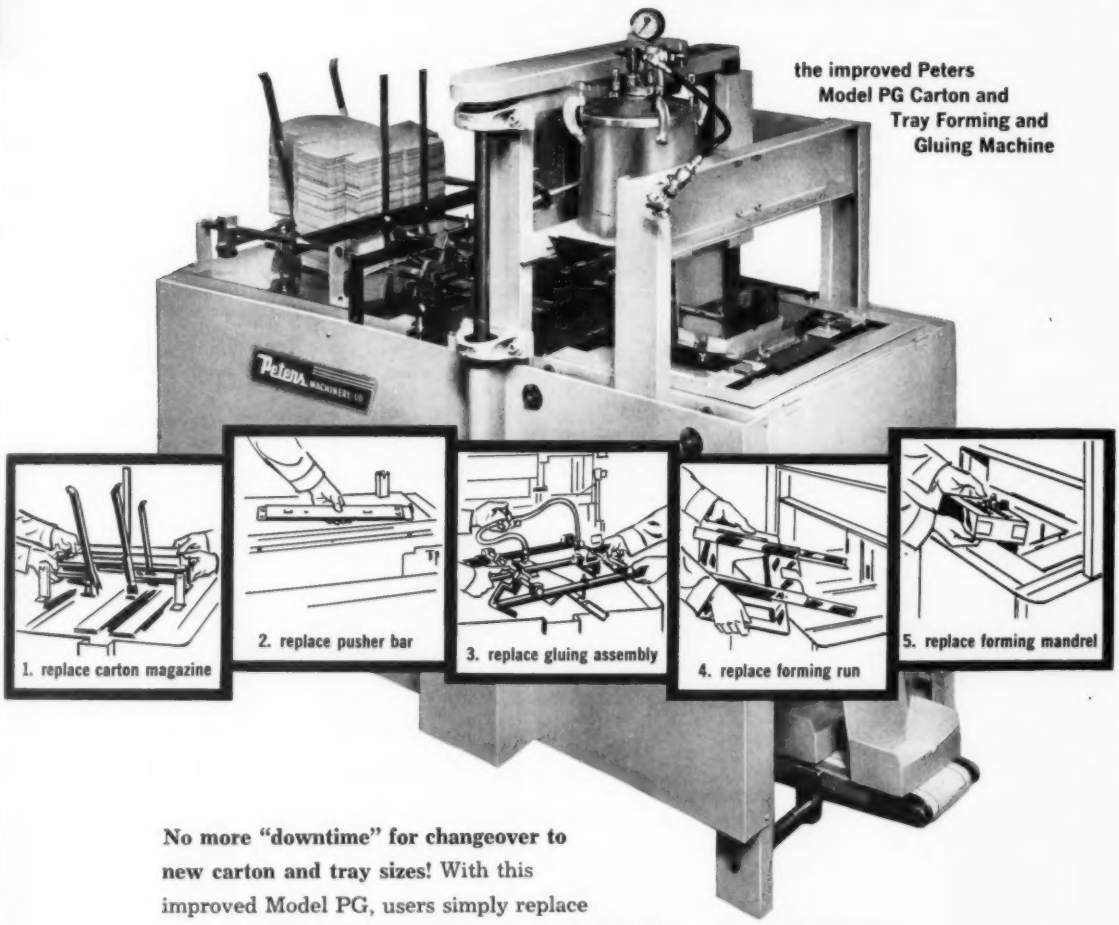
110—Label Markers

The Model 22W self-stop label marking machine for packaging, shipping, identifying, and price marking, is described in a 6-page brochure. This equipment features a self-stop counting device and a stacker. Optional features are a rewind device, unwinder, and label dispenser for pressure-sensitive labels. The brochure shows seven different types of marking methods possible with these machines. For a copy write: Soabar Co., Dept. PE, 7722 Dungan Rd., Philadelphia 11, Pa., or *circle number on card.*

111—Polyethylene Resins

A 4-page property selector guide for Alathon polyethylene resins for extrusion coating processes has been published. This brochure gives information on nine resins available for such items as boilable food packages and cap liners, among other applications. Details include the

NOW ONLY 5 MINUTES FOR A NEW CARTON SIZE!



the improved Peters Model PG Carton and Tray Forming and Gluing Machine

No more "downtime" for changeover to new carton and tray sizes! With this improved Model PG, users simply replace assemblies when new size is needed, *without tools* . . . cuts changeover time from one hour to five minutes! **Still forms and glues up to 70 cartons or trays per minute**, and handles a wide range of sizes, too! **Still with the new closed glue system** which permits immediate operation without lengthy make-ready and eliminates need for clean-up after operation.

Peters

Write for descriptive literature today!

MACHINERY COMPANY

4700 N. Ravenswood Avenue • Chicago 40, Illinois • LOngbeach 1-9000

resin code, density, melt index, properties, and suggested uses. For a copy of this guide write: E. I. du Pont de Nemours & Co. (Inc.), Dept. PE, Room 2507A, Nemours Bldg., Wilmington 98, Del., or *circle number on card.*

112—Foil Adhesion System

A pamphlet describes the newly-developed Pacon process for overwrapping operations. This process provides a foil-to-foil or foil-to-paper adhesion that hermetically seals a package. The machine applies a hot-melt adhesive to the foil side of many different laminated structures, and can be used with any roll-fed overwrap machine. To get this pamphlet write: Aluminum Co. of America, Dept. PE, 1657 Alcoa Bldg., Pittsburgh 19, Pa., or *circle number on card.*

113—Weight Sensing

An 8-page reference manual has been prepared to show the application of automatic measurement of weight or force to automatic control. It illustrates the operation and uses of the Shadograph weight sensing principle for classifying, sorting, recording or imprinting weight data, counting, actuating other processes, and controlling machine functions. For this manual write: The Exact Weight Scale Co., Dept. PE, 912 W. Fifth Ave., Columbus 8, Ohio, or *circle number on card.*

114—Tape, Label Adhesives

A guide to pressure-sensitive adhesives—their types, property specifications, and applications—has been published as Technical Service Bulletin 301. This 9-page bulletin describes various pressure-sensitive tapes and labels now available. It compares the typical characteristics of ether, rubber cement, and acrylic adhesives and cites property areas where the latter offer advantages. For a copy of this bulletin write: National Starch & Chemical Corp., Adhesives Div., Dept. PE, Grand Central P.O. Box 50, New York 17, N.Y., or *circle number on card.*

115—Cushioning

A folder contains case histories pointing out the advantages of Tuf-flex cushion padding for packaging products such as refrigerators, desk pen sets, rolls of aluminum foil, and many others. This cushioning material is designed to meet packaging requirements of flotation, pressure-point padding, surface protection, absorbent packing, moisture resistance, and thermo packing. For these case histories write: Wood Conversion Co., Dept. PE, 1st National Bank Bldg., St. Paul 4, Minn., or *circle number on card.*

116—Thermoforming

Sets of data sheets are available on various types of thermoforming machinery. Specifications, descriptions, and illustrations are given for: heat-assist die-cutting machines, automatic and semiautomatic vacuum formers, a slide package flange former, heat-sealing equipment, blister packaging heat sealers, a pressure former, and horizontal expandable polystyrene molding machines. To get this literature write: Tronomatic Machine Manufacturing Corp., Dept. PE, 25 Bruckner Blvd., New York 54, N.Y., or *circle number on card.*

117—Label Applicator

A leaflet illustrates and describes the Amscomatic portable automatic labeling machine. This unit applies pressure-sensitive tickets or labels to bags, overwrapped packages, boxes, cans, plastic, wood containers, or directly on a product at speeds up to 100 labels/min. For this literature write: Amsco Packaging Machinery, Inc., Dept. PE, 31-31 48th Ave., Long Island City 1, N.Y., or *circle number on card.*

118—Clustered-Roll Bagger

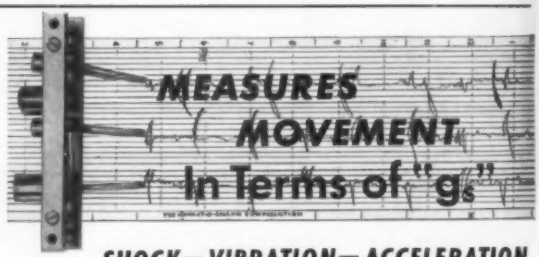
The Model 116-CR packages clusters of 6, 8, 10, or 12 rolls to a bag. This machine, as described in a leaflet,

Heap Good!

You bet. Many chiefs and warriors plenty happy . . . use-um FINDLEY glues. All kinds. For all jobs. Heap good! Stick-um like pitch. Fast as lightning. Strong. Hold like bear. Help save-um plenty wampum. You get-um sample FINDLEYS now. Make you top man on totem pole.

Findley's INDUSTRIAL ADHESIVES exclusively

Dept. PE, Milwaukee 45, Wisconsin

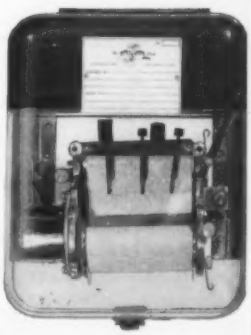


SHOCK—VIBRATION—ACCELERATION

IMPACT-O-GRAPH has long been used by engineers and scientists engaged in tests that involve the measurement of movement be it shock, vibration or acceleration.

Where such tests involve the determination of reliability, setting up quality control systems, designing packaging or the measurement of environmental factors, IMPACT-O-GRAPH has approached the accuracy of expensive electronic equipment. Yet this three-directional instrument is compact, self-contained and costs a fraction of bulky electronic shock-testing apparatus. It also provides you with a permanent charted record of test results plus time and date factors, if required.

There are many different models of IMPACT-O-GRAPHS for various purposes. Tell us your requirements and we'll recommend the correct instrument. Also, send for the IMPACT-O-GRAPH brochure for the complete story. Leasing arrangements can be made. Approved by the National Safe Transit Committee.



MODEL Hc

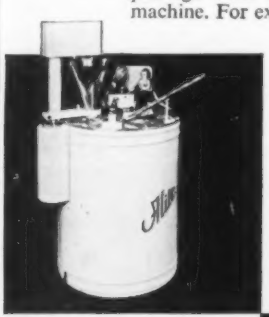
THE IMPACT-O-GRAPH® CORPORATION

B. F. KEITH BUILDING • CLEVELAND 15, OHIO • CHerry 1-5038

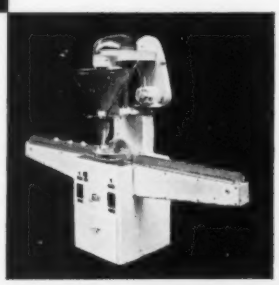
...One of the few

"containers" an **ALITE** machine doesn't fill!

But keep in mind: *"If it's pasty, powdery and pours, there's an Alite to do the pouring."* Drugs in 8-milligram vials . . . mustard in 3-pound tins . . . make-up in compacts . . . flour in 2-pound bags . . . you can put virtually any-type product into any-type package with a specially designed Alite machine. For example:



Fills up to 1200 powder compacts per hour. Arenco-Alite A. T. 5 powder-compressor is fully automatic, dispenses any powder concentration evenly, accurately. Pressure completely variable from 40 to 1000 psi with merely the turn of a knob. Handles any-size compact from 1"-4", requires no air supply or other "extras."



16, 32 or 48 fills per minute. Alite loose-filling machine speeds dispensing of powders, grain substances, even pastes, with an economical accessory. Fills containers as small as ¼ oz., as large as 3-pounds-plus. Hopper and working parts can be stripped, cleaned and reassembled in minutes.

And these are only two members of the Alite family of powder-filling, -compressing and batch-mixing equipment. For complete information, write today.

ARENCO

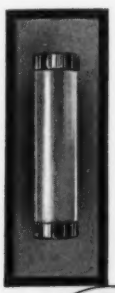
ARENCO MACHINE COMPANY
INCORPORATED
25 West 43rd Street, New York 36, N. Y.

LERMER Adds Important NEW Features to *flexible acetate containers*

• Clear, flexible extruded containers • Full width straight opening • No turned-in top • Easy to fill and empty • Streamlined • Seamless • Can be printed up to 4 colors

• Reinforced molded bottoms • Firm wide base—Prevents tipping over • Available in colors

• Molded polypropylene closures for uniform fit • Knurled for easy grip • Engineered to hold tight—Easy to remove and replace • Closures available in assorted colors • May be hot stamped in contrasting color with trade mark or other desired copy



• Containers available in diameters from ¼" through 1¼" • Any lengths up to 7" — Longer lengths on special order • Can be furnished in long lengths open at both ends. You can make your own containers by cutting to your sizes. We furnish closures.

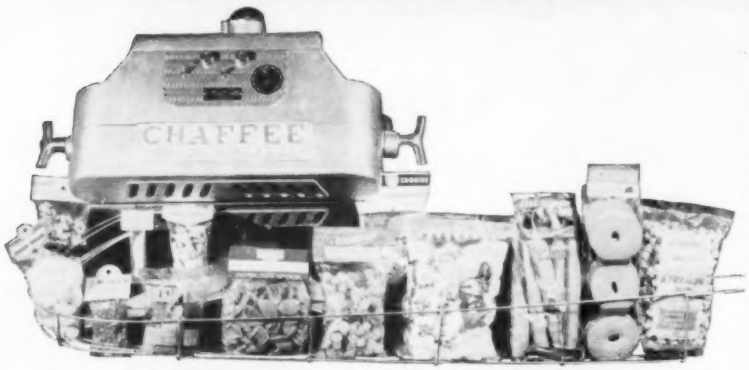
Now is the time to consider the flexibility, the protection, the beauty, the features and economy of Lermer flexible plastic containers. Ideal for many products. **Write today for samples.**

ALSO A COMPLETE LINE OF RIGID MOLDED CONTAINERS.

LERMER PLASTICS, INC.
540 South Avenue, Garwood, N. J.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

CHAFFEE ROTOR-SEALER



Production Line Heat Sealing The #1 Choice

WHY? Because it heat seals all popular sealable materials. You may change your package from sealing bag top labels on cellophane, polyethylene, pliofilm and saran to the sealing of unsupported films, viz; cellophane, polyethylene, pliofilm, vinyl, and all heat sealable films by simply turning the thermostat dial. Automatic Infeed, Code-Dater & Hole Punching device available.

Military Approved Sealer Available

RALPH CHAFFEE & CO.

2358-2360 MARKET ST. HEMLOCK 1-0807 SAN FRANCISCO 14, CALIF.

REPRESENTATIVES IN PRINCIPAL CITIES

For more information circle No. 265 on Reader Service Card

PACK IT SMALLER WITH SHOKSORB

A few sheets of permanently cushion-molded Shoksorb protective packing paper can replace many cubic inches of bulk dunnage—cut carton size, packing and handling costs, shipping losses. Write for Shoksorb-bound picture-catalog of uses and types.

KIEFFER PAPER MILLS, INC.

BROWNSTOWN, INDIANA

features a short chassis design, a jet-air bag-opening system, adjustable support guide mountings, and preloading of bags in interchangeable cartridge magazines. For descriptive literature write: Tele-Sonic Packaging Corp., Dept. PE, 208 W. 27th St., New York 1, N.Y., or *circle number on card.*

119—Thermoplastics

A 12-page brochure describes the manufacturing facilities and thermoplastic sheet and film products of this company. A technical data chart presents the properties of its cellulose acetate, cellulose acetate butyrate, modified polystyrene, linear polyethylene, and polypropylene. The brochure discusses applications for these materials. For a copy write: Joseph Davis Plastics Co., Dept. PE, 450 Schuyler Ave., Kearny, N.J., or *circle number on card.*

120—Blister Sealer

A product information sheet reviews the new high-speed automatic sealer for large plastic blister packaging called the Clear-Pak O?CP Jr. This unit seals a blister package every 3 sec. The sealing area is up to 10x13 in. and it has a table size of 28 in. in diameter. The leaflet outlines this sealer's advantages and specifications. For a copy write: Erdco Engineering Corp., Dept. PE, Addison, Ill., or *circle number on card.*

121—Tear/Reinforcing Tapes

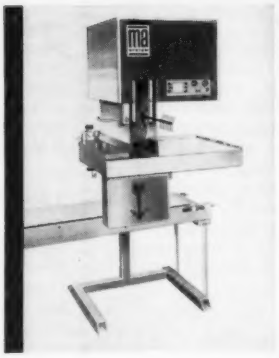
A brochure is available describing and showing the advantages and applications for CPS Rip-Open and reinforcing tapes for sealing containers. Sketches show the use of this convenience-opening device on a variety of packages. Ways to avoid damage to steel-strapped or banded containers with reinforcing tape are shown in addition to tape-reinforced bulk packs. For a copy of this brochure write: Chicago Printed String Co., Industrial Tape Div., Dept. PE, 2300 Logan Blvd., Chicago 47, Ill., or *circle number on card.*

122—Thermoforming

"Blister Packaging Facts" is a 24-page booklet discussing various types of thermoformed packages, how they are made, the advantages of each type, and applications. A chart outlines the characteristics and applications for some of the basic types of sheet plastics. Coatings, adhesives, printing methods, and heat sealing blister packages are also discussed. For a copy of this booklet write: The Jackmeyer Corp., Dept. PE, 253 W. 26th St., New York 1, N.Y., or *circle number on card.*

(Turn page)

A new low-cost automated polyethylene packaging system



FUNCTION: Completely packages products in polyethylene film –in one operation–in your plant. Produces inexpensive loose or shrink-fit polyethylene packages around regular, odd-shaped or out-sized products of all types. **ADVANTAGES:** Uses polyethylene roll stock. Saves up to 50% on material costs over ready-made bags and other packaging methods and materials. • Boosts in-plant packaging efficiency, produces up to 30 packages per minute at reduced labor costs. • Provides a self-selling plain or printed package that protects, displays, reduces damages caused by excessive handling. • Simple to Operate—Easy to Maintain. **COST:** Complete MA Systems normally range from $2000 to $4000. **FREE OFFER:** Let the MA System test-package your product in durable, transparent polyethylene. Send us a sample, or write for complete details on this revolutionary packaging system to either: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio—or—Kordite Company, Macedon, New York.

ma SYSTEM

Circle No. 267 on Card

WITH A GRACO *FAST-FLO* PUMP

Transport your liquids or semi-liquids to point of use with a Graco Fast-Flo Pump . . . *and show tremendous savings by cutting unnecessary plant traffic.*

Air powered, the Fast-Flo doesn't require expensive electrical wiring. Fits all standard drums.

Some plants handle up to 25 different materials this economical Graco way.

Investigate today. See how you can profit with Graco direct-from-drum transfer pumps in your plant.

GRACO ENGINEERS & MANUFACTURERS

GRAY COMPANY, INC.
832 Graco Square
Minneapolis 13, Minnesota

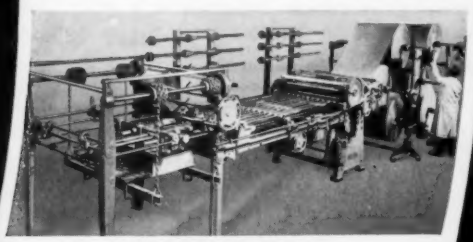
See Phone Book Yellow Pages "Spraying" for Graco Suppliers

BECK

betters your production profits

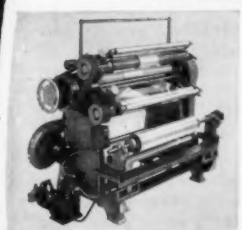
. . . on cutting sheets from rolls

Cut big jobs down to size with the Beck Sheeter. It handles many rolls simultaneously . . . cuts, counts and stacks with only one setting . . . needs only one operator . . . and cuts everything from lightweight paper to board, acetate, vinyl . . . even cloth.



BECK Roll Sheet Cutter

. . . and on slitting and rewinding, too



BECK Slitter and Rewinder

Economical razor edge slitting and accurate rewinding. That's what the Beck Slitter can do for you. Saves waste, too. No interleaving of rolls. Ideal for all the newer materials... polypropylene, mylar, acetate, teflon, etc.

Let's send you details on these versatile machines . . . including illustrated bulletin showing all 9 models of Beck Sheet Cutters. Write.

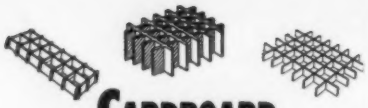
BECK charles beck MACHINE corporation

70 Church Road, King of Prussia, Pennsylvania

SHEET CUTTERS / SLITTERS / SHEETER-PRINTER / CAN IMPRINTER / BOX LIDDER / TEAR STRIPPER

Circle No. 268 on Card

Circle No. 269 on Card



CARDBOARD PARTITIONS
lower your
PACKING COST
per item!

If you now use an old-fashioned method . . . change to CARDBOARD PARTITIONS! They not only cost less—but provide more effective protective packaging

In our large plant, devoted exclusively to the production of pre-assembled cardboard partitions . . . custom-made to your exact specifications . . . Your orders will be filled fast—on time, and as specified —at a price that's always right!

WRITE, PHONE, WIRE for QUOTATIONS on YOUR REQUIREMENTS

PETER PARTITION CORP.
Manufacturers of Cardboard Partitions
124 BOERUM PLACE BROOKLYN 1, N.Y.
Telephone: TRiangle 5-4033

Circle No. 270 on Card

123—Cellophane

"Meet The Avisco Film Division" is a 20-page booklet presenting the story of its people, communities, products, uses, history, and future. Avisco cellophanes, and what their production involves are described and illustrated. A map shows the locations of plants, sales offices, and distribution centers. For a copy write: American Viscose Corp., Film Div., Dept. PE, 1617 Pennsylvania Blvd., Philadelphia 3, Pa., or *circle number on card.*

124—Bagging Machine

Packaging products in polyethylene with the Bag-Pak machine is described in a leaflet. One operation makes and seals a bag on four sides from roll stock, thus eliminating the need for preformed bags, closures, and tapes. The leaflet, in addition to describing the operation, features, and specifications for this machine's various models, also has a stock-size polyethylene roll pricing chart for a variety of film gauges. For this literature write: Cherrin Bag-Pak Co., Dept. PE, 6340 Miller Rd., Dearborn, Mich., or *circle number on card.*

125—Strapping Tape

Packaging specifications for strapping tape are the subject of a 12-page brochure. It outlines regulations for shipping containers of various types by truck, railroad, parcel post, and export. It tells how reinforced strapping tape may be used in place of steel strapping, wire, or rope. For a copy write: Behr-Manning Co., Dept., PE Troy, N.Y., or *circle number on card.*

126—Nylon Film

Literature is available on Fosta Nylon film. These data sheets tell about the film's general properties, chemical resistance, heat resistance, and methods of thermoforming, including skin packaging on uncoated paperboard. Details are also given on its fabrication, printing, cementing, laminating, and coating. For this information write: Foster Grant Co., Inc., Dept. PE, Leominster, Mass., or *circle number on card.*

127—Case Packer

A case packer for bottled products, called the Climax Unimatic, is described and illustrated in a 4-page bulletin. This bottom-loading automatic machine raises the bottles up into an inverted case instead of dropping them in. Engineering features and specifications are noted. For a copy of this bulletin write: The Lodge & Shipley Co., Climax Products Div., Dept. PE, 3055 Colerain Ave., Cincinnati 25, Ohio, or *circle number on card.*

NEW! Portable Electric Bag Closing Machine

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT—9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Direct drive motor with thumb control button. Exclusive top and bottom feed for greater power and production.

VERSATILE—Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper.

SAFE—Anyone can operate it. No special training required. Comes with shoulder strap or can be obtained with overhead suspension. Send for descriptive literature.

FINEST QUALITY

Union Special®
MACHINE COMPANY
487 N. Franklin St., Chicago 10, Ill., U.S.A.

Announcing . . .
The First Annual
HARDWARE PACKAGING EXPOSITION
Sponsored by the
Hardware Packaging Committee
of the Packaging Institute
To be held during
THE NATIONAL HARDWARE SHOW
McCormick Place, Chicago, Illinois
October 2nd to 6th, 1961

Eligibility . .
Any manufacturer is eligible whose products are distributed through retail outlets.

Awards . .
Awards to be made for best packaging in various product classifications.

ENTRY BLANKS AVAILABLE FROM . . .
Hardware Packaging Committee
c/o Packaging Institute
342 Madison Avenue, New York 17, N. Y.

128—Stretchable Kraft

Expanda-Kraft is a stretchable paper for multiwall bags, laminations, backings, tape, bags, food wraps, liners, and other types of packaging. A sample of this paper explains its advantages, applications, and weights available. For it write: Hollingsworth & Whitney Div., Scott Paper Co., Dept. PE, Chester, Pa., or *circle number on card.*

129—Plastic Packages

Package development services are outlined and a number of different types of packages produced from plastic are shown in a bulletin. These plastics include: polyethylene, acetate, and high-density blown polyethylene. For a copy of this bulletin write: Celanese Plastics Co., Dept. PE, 180 Madison Ave., New York 16, N.Y., or *circle number on card.*

130—Cellulose Band Sealer

A high-speed machine which automatically applies cellulose seals on containers is discussed in a 4-page brochure. Called the Cellubander, it places shrinkable cellulose seals on vials, bottles, aerosol cans, wide-mouth jars, and plastic containers. Four basic models of this machine provide operating speeds from 25 to 225 sealed containers per min. For a copy of the brochure write: John Burton Machine Corp., Dept. PE, 1600 West St., Concord, Calif., or *circle number on card.*

131—Paper Products

The "International Paper Packaging Guide" pictures and describes the paper products produced by this company. These materials and containers include: extensible kraft, Gator-Hide kraft, kraft linerboard, folding carton stock, kraft bags, polyethylene-coated papers, and others. To get a copy of this booklet write: International Paper Co., Dept. PE, 220 E. 42nd St., New York 17, N.Y., or *circle number on card.*

132—Plastic Containers

IMCO's facilities for the production of regular and linear polyethylene containers are described in a 4-page brochure. Engineering and other services, stock items, and decorating are discussed. For a copy of this illustrated brochure write: IMCO Container Corp., Dept. PE, 75th & Cleveland Ave., Kansas City 30, Mo., or *circle number on card.*

133—Semiautomatic Cartoner

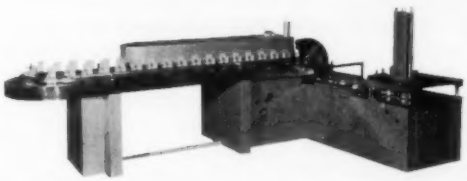
A leaflet describes the Handi-Man machine for cartoning one-way bottles or cans in the Cluster-Pak carton. This machine accommodates a variety of container sizes and unit combinations at speeds up to 60 bottles or cans per min. For this information write: Mead Packaging, A Div. of The Mead Corp., Dept. PE, P.O. Box 4417, Atlanta 2, Ga., or *circle number on card.*

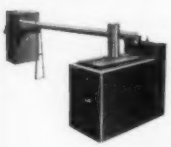
134—Thermoforming Units

Four new machines for different types of thermoforming operations are described and illustrated in a leaflet. These machines are: a semi-automatic vacuum former; an automatic blister forming, indexing and cutting machine; a large-area thermoformer; and a trim press. To get this leaflet write: Auto-Vac Co., Dept. PE, 105 Meadow St., Fairfield, Conn., or *circle number on card.*

135—Corrugated Boxes

"How the Gaylord Research and Development Department Guards the Quality of Gaylord Boxes" is a new 8-page brochure. The design department, physical testing and quality verification laboratory, chemical laboratory, and various types of equipment used for testing corrugated containers are subjects discussed in this brochure. For a copy write: Gaylord Container Div., Crown Zellerbach Corp., Dept. PE, 111 N. 4th St., St. Louis 2, Mo., or *circle number on card.* *(End)*





MOVE UP TO BIVANS

Hand cartoning eats profits! Fast, economical cartoning is yours with versatile, simple-to-operate Bivans equipment. Proven on scores of production lines, these machines cut labor costs – give you more products with less people.

BIVANS CORPORATION
2431 DALLAS STREET
LOS ANGELES 31, CALIF.

CALL OUR DISTRIBUTOR: NEW JERSEY MACHINE CORPORATION, HOBOKEN

Circle No. 272 on Card

STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%
WITH FF GLUE GUNS

You can throw away your messy rolls, clogged brushes, open glue pots when you install FF glue guns. And you cut gluing costs up to 83%! Because the amazing FF system is totally enclosed, engineered to put glue exactly where you want it and in the precise amount required . . . fast, efficiently and without waste. Over 600 stocked models handle most mechanical and manual operations . . . with specials and miniatures available to meet any unusual gluing conditions. Easy to install and operate. Fully guaranteed. Thousands of enthusiastic users. Illustrated catalog available upon request. Write, wire or phone for your copy today.

JOHN P. FOX COMPANY, INC.
1107 S. Mountain FF Monrovia, Calif.
"FF GLUE GUNS . . . since 1946"

Stripe-action roller gun

Roller gun, plunger actuated

Plunger-action valve body

Spot guns, machine mount

Circle No. 273 on Card

A message to

Package research and development departments

Engineering departments

Technical and research libraries

Everyone concerned with what is being written in the world of packages

We recently were appointed American agents for *Packaging Abstracts*, published by the British research association PATRA—The Printing, Packaging & Allied Trades Research Association. This service gives you, in a single, handy periodical (published monthly, plus an annual index), brief summaries of packaging articles that have appeared in some 200 packaging magazines plus over 150 magazines devoted to printing and allied subjects, and numerous patents, books, pamphlets, and technical data provided by makers of machinery and materials.

This publication is unlike any other abstracting service in the world. It covers technical and operational packaging; it abstracts not only English language periodicals, but translates and abstracts foreign language publications from Germany, Russia, France, and every country in the world that publishes periodicals concerned in whole, or in part, with the various phases of packaging.

At present, each issue is divided into 18 main sections, including among others such subjects as packaging materials, adhesives, labels, coatings, and packaging machinery.

How To Use *Packaging Abstracts*

Suppose you are interested in finding out what has been written on cushioning. You would refer to the section on cushioning. A recent issue abstracted seven articles on the subject, that had appeared in one American magazine, two British, one Canadian, and two U.S. military reports. Perhaps the abstract would give you the information you want; if not, you could request a complete reprint or copy of the original publication. The same issue, for instance, abstracted 13 articles on plastic containers. An average issue carries about 400 abstracts based on literature received from all parts of the world.

The Cost Is Nominal

It costs thousands of dollars to collect, translate where necessary, evaluate, and abstract pertinent articles. Each month, literally thousands of pages of editorial material are read and the final result put into a handy 5½ x 8½-in. booklet averaging around 75 pages a month, plus the annual index. You can receive the 12 monthly issues plus the annual index for a total annual subscription price of only $42.00.

Examine It 10 Days Free

Just mail the sample subscription form shown and we will mail you a sample copy of the current issue. You may return it in 10 days and you owe us nothing. If you keep it, we will mail you subsequent issues as they come off the press, and bill you $42.00 for a one-year subscription.

Free Examination Form

PACKAGE ENGINEERING
185 N. Wabash Avenue
Chicago 1, Illinois

Gentlemen:

Please send me a copy of *Packaging Abstracts* for 10 days' free examination. I understand that I may return the copy in 10 days and I owe you nothing. If I do not return it, you may bill me $42.00 for a year's subscription.

Name_____ Title_____

Company_____

Street Address_____

City_____ Zone____ State_____

Packaging Institute glossary now part of Federal Standard 75

Packaging Institute's *Glossary of Packaging Terms* is now in its third edition. This edition is the joint work of PI, various industry sources, and different agencies of the federal government.

Federal Standard No. 75 now "incorporates by reference"* this edition of the glossary.

Charles H. Felton, containers and packaging division, Business and Defense Services Administration, U.S. Department of Commerce, Washington, served as its coordinating editor. His division acted as "the preparing activity" under an assignment from the standardization division, Federal Supply Service, General Services Administration. Meanwhile, the Bureau of Ships, Navy Department, provided the military coordination following the procedures of the Armed Forces Supply Support Center, Office of Standardization, Department of Defense.

Fits Loose Leaf Binder

This edition consists of 172 pages (8x10-7/16 in.) available as a loose-leaf publication with pages seven-hole punched. Besides using the vast bulk of definitions from the second edition, the present edition incorporates many additional terms and reconciles terminology covering accepted usage by government and industry.

Illustrative of improvements are the definitions of board (for example, "board, V" and "board, W") on Pages 18 and 19. The newer specification series PPP-B-636 has been substituted for the older JAN-P-108 series.

The definitions run from "'A' end" starting on Page 1 through "yield value" on Page 160. Appendices occupy Pages 161-172 and cover weights and measures, container dimensions, and miscellaneous details such as sizes of nails for use in container construction.

Copies of the third edition of *Glossary of Packaging Terms* are available at $3.50 each from the Packaging Institute, 342 Madison Ave., New York 17, N.Y. Members of PI ordering copies before Sept. 1, 1961 may obtain them at the special membership rate of $2.50 each. Those in federal government activities may obtain copies of federal specifications, standards and handbooks and the index of all these from established distribution points in their agencies. *(End)*

*This means the third edition of the glossary becomes part of the standard without actually appearing in it. Instead of reproducing the entire edition in the standard, the "incorporation by reference" simply states that the edition is so incorporated and tells where to get it.

NEW compact Machine Automatically PRESSURES FORMS LOW-COST PLASTIC FOOD CONTAINERS & BLISTERS from roll plastic films!

Introducing

Abbott PFM Pressure Forming Machine

PUSH-BUTTON PACKAGING 100% APPROVED FOR EVERY TYPE FOOD CONTAINER!

Base Price
Standard Machine
$9,750.00 or only
$311.00 per month
on Lease Plan

- Uses inexpensive aluminum or epoxy molds
- Forms round, square & rectangular transparent or colored opaque containers . . . Strong, greaseproof, non-toxic
- Ties in with any production or packaging line
- Permits instant changeover of molds and roll plastic film

WRITE, WIRE OR PHONE today for full details on operation:

ABBOTT PLASTIC MACHINE Corporation
5718-26 N. Broadway • Chicago 40, Ill. • LOngbeach 1-3740

SALES-SERVICE OFFICES IN ALL PRINCIPAL CITIES

For more information circle No. 274 on Reader Service Card

If you ship 25 cartons a day...

You can enjoy the advantages of large-volume shippers

NOW — At a price well within the reach of the smaller shipper, the new BETTER PACK 555 ELECTRIC tape dispenser will give you the safest, strongest, fastest carton closures in America! GOOD CUSTOMER SERVICE starts with prompt, intact delivery of your product...and prompt, intact delivery starts with securely "laminated" closures. See for yourself!

Write name, company and address on margin and send to:

Better Packages, Inc.
Shelton, Conn.

Circle No. 275 on Card

CLASSIFIED ADVERTISING

Rates: $30.00 per column inch, one inch minimum. If boxed, add $15.00.
Situation-Wanted ads—1/3 of these rates.

Copy: Figure 40 characters per line 9 lines per inch. Include reply address.

Terms: Cash with order. Orders received without cash will be held until payment is received.

POSITIONS AVAILABLE

Packaging Department Supervisor

Progressive midwestern manufacturer of biologicals and pharmaceuticals desires aggressive individual to take complete charge of entire packaging operation. We are looking for a man with experience in handling people, knowledge of labeling machinery and packaging supplies. Mechanical aptitude and interest essential. Degree desired, but not required. Our firm offers:

- 2 week paid vacation
- Complete sick leave benefits
- 7 paid holidays per year
- Liberal profit sharing plan
- Paid hospitalization and life insurance
- Salary commensurate with experience and training

Send full resume and photo to Box 8612, PACKAGE ENGINEERING.

Wanted Sales Representatives For Custom Molded Plastic Foam Manufacturers.

Large plastic manufacturer entering the custom Molded Expanded Polystyrene Plastic Foam field needs experienced concentrated packaging representatives calling on major accounts. This young growing industry offers excellent opportunities for aggressive sales organizations. Reply to: Box 8611, PACKAGE ENGINEERING.

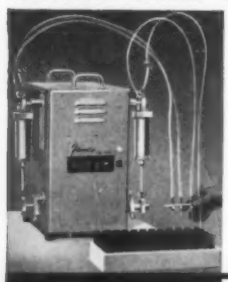
USED EQUIPMENT FOR SALE

Modern Packaging and Food Processing Machinery. Package Machinery Models FA, FF, FFH, FA2, FA3 and FA4 Wrappers with and without Electric Eyes. Also Models F, CM-3 and F10-J Bundler. Hayssen Wrappers —all sizes, for cellophane and polyethylene. Hudson Sharp Campbell Models 2W6, 2W8 and 2W10 Wrappers. Scandia Automatic and Semi-Automatic Wrappers. Wrap King Models M2, DW, DW-2 and DW-4 Wrappers. Package Machinery Palmer Carton Gluers. Stokes and Smith Model B Volumetric Transwraps also Model A Auger and Model B with 4-scale Net Weigher. Pneumatic Scale Automatic Carton Feeder, Bottom Sealers, Wax Liners and Top Sealers with interconnecting conveyors. Pneumatic Scale Tite Wrap. Standard Knapp, Ferguson, A-B-C Case Sealers, Fillers, Labelers, Cappers, Mixers, Grinders, etc. Union Standard Equipment Company, 318-322 Lafayette Street, New York 12, N.Y. Phone: CAnal 6-5334.

Wanted: Package Machinery Box Wrappers and Hudson Sharp 2W6 Wrapper. Reply to: Box 8613, PACKAGE ENGINEERING.

NOW—FILL ANY LIQUID WITH THE NEW Filamatic LIQUID FILLER

Fills Free-Flowing, Viscous and Foaming Liquids!



- Completely portable—ready to use on any bench top
- 1, 2, or 4 nozzles—speeds up to 120 per minute
- Fills plastic, glass or metal containers
- Wide filling range—one drop to 16 ounces
- Electronic, variable speed drive
- Adjustable suck-back
- 1% filling accuracy

Solve your filling problems with the new Filamatic—the **only** portable, volumetric filler that handles all liquids. Provides drip-free filling of water-thin products, heavy oils, viscous adhesives or foaming lotions. Fills polyethylene bottles, glass or metal containers. Single drop to 16 oz. capacity increases to 2½ gallons with Multi-Stroke Attachment. Write today for new 12 page brochure. . . .

NATIONAL INSTRUMENT CO.
4123 Fordleigh Road Baltimore 15, Maryland

Circle No. 278 on Card

Do you need an extra copy of these articles?

As long as our supply lasts, we will send you a reprint (all three parts reprinted as a single article) of **A practical approach to a weight-control program,** by John E. Reynolds, at $1.00 per copy. Also, individual reprints of the entire 20 notes of the series **Structural design notes for corrugated containers,** by K. Q. Kellicutt, at $2.50 per set. Also available, all six parts of our carton series, **Practical pointers to better folding carton performance,** reprinted as a single article, at $1.50.

Please include payment with order. Contact our Reader Service Department.

PACKAGE engineering
185 North Wabash Avenue, Chicago 1, Illinois

Index of Advertisers

Circulation of this issue in the United States—37,000 copies

A-B-C Packaging Machine Corporation 21
Abbott Plastic Machine Corporation 103
American Sisalkraft Company .....outside back cover
American Viscose Corporation, Film Division 5
The Arabol Mfg. Co. 24
Arenco Machine Company 97
Armour Alliance Industries, Adhesives Division 30, 31
AviSun Corporation 59

Bartelt Engineering Co., Inc. 43
Battle Creek Packaging Machines, Inc. 16
Charles Beck Machine Corporation 99
Better Packages, Inc. 104
Bivans Corporation 101
Bostitch, Inc. 3
F. L. Burt Co. 14

Celanese Plastics Company 32
Ralph Chaffee & Co. 98
Chippewa Paper Products Co., Inc. 74
The Cleveland Container Company 13
Columbian Rope Company 90
Container Equipment Corp. 91
Crown Zellerbach Corporation,
Gaylord Container Division 19

Delavan Manufacturing Company 33
Dow Corning Corporation 26

E. I. du Pont de Nemours & Co., (Inc.)
Film Dept.—Cellophane 22, 23
Industrial & Biochemicals Dept.—Ludox 83
Eastman Kodak Company 81
Economic Machinery Company 71
The Exact Weight Scale Co. 37

Fibreboard Paper Products Corporation 67
F. G. Findley Co. 96
John P. Fox Company, Inc. 101

Gaylord Container Division,
Crown Zellerbach Corporation 19
The Goodyear Tire & Rubber Company 1
Gray Company, Inc. 99
B. F. Gump Co. 93
Hinde & Dauch Division, West Virginia Pulp & Paper 44

Hoerner Boxes, Inc. 69
Hudson Pulp & Paper Corp. 34

Illumitronic Systems Corporation 27
The Impact-O-Graph Corporation 96
International Paper 17

Keyes Fibre Company 38
Kieffer Paper Mills, Inc. 98
Kimberly-Clark Corporation 9
Koppers Company, Inc., Plastics Division 62, 63

Lermer Plastics, Inc. 97
Lynch Corporation 12

MA System 99
Milprint, Inc. 15
Minnesota Mining and Manufacturing Company:
Chemical Division 65
Industrial Tape Division 8

National Instrument Co. 104
National Starch and Chemical Corporation 76

Orchard Paper Company 84
Owens-Illinois, Paper Products Division 28

Package Machinery Company .....7, inside back cover
Packaging Institute, Hardware Packaging Committee ...100
Packomatic, Textile Machine Works 35
Paterson Parchment Paper Company 88
B. F. Perkins & Son, Inc. 18
Peter Partition Corp. 100
Peters Machinery Company 95
Pneumatic Scale Corporation, Ltd. 85
Pyroxylin Products, Inc. 80

Angus J. Ray Publishing Co.:
Package Engineering 104
Packaging Abstracts 102
Riegel Paper Corp. 39, 40, 41, 42

Scandia Packaging Machinery Company ..inside front cover
Seneca Wire & Mfg. Co. 70
Sherman Paper Products Company 11
Soabar Company 92
Sten-C-Labl, Inc. 6
Sunstrand-American Broach,
Division of Sunstrand Corporation 29

Thilmany Pulp & Paper Co. 20

Union Bag-Camp Paper Corporation, Multiwall Division 36
Union Special Machine Company 100
United Shoe Machinery Corporation, Thermogrip Division 89
U.S. Bottlers Machinery Co. 77
U.S. Steel Supply Division of United States Steel 25

Weber Marking Systems 58
Wheeling Stamping Co. 68
Wrap-Ade Machine Co., Inc. 82

What we think

New challenges call for broader view of packaging

Every company should have a vice president for the prevention of tunnel-visioned thinking or a general manager in charge of looking over other people's shoulders. If somebody would attend to these things, we might ease a major burden of today's technological intricacies—too much fragmenting specialization.

Early specialization leads to success later

The trouble is that the better a packaging man does his own job the less he knows about what other people do—even though a good many packaging people have jobs that cut across departmental lines.

Most middle and upper management executives are there because they learned to do some particular job well. The young men doing the fastest rising in packaging are usually those best able to jump in and master some one task on a production line or in a research laboratory, for example.

But they soon find they know more and more about less and less. What they need most is a sense of orientation or direction. It is easy to see their frustration; how many times do you hear ". . . but you really should see Mr. So-and-so. He gets into much more of the picture than we do."

Problems "from outside" complicate day's work

Besides the growing array of purely technical problems of packaging there are social or political activities and involvements, plus even some assaults on packaging. Only by developing the correct orientation can a packaging man gain the understanding to help him see his way through all these.

For example, Washington gives you the feeling that people in government think the consumer needs looking after. Folks on Capitol Hill tell you Congress reflects the mood of the people and that many people have uncomfortable feelings about packaging and packages. Whether this is actually so or is something that the devotees of paternalistic government are stirring up to help get a foot in somebody's door depends on your point of view.

Newspapers widely reported the hearings of the Senate antitrust and monopoly subcommittee. Witnesses criticized packaging and labeling or asked why a package has so many layers. This suggests packaging people must interpret packaging to their companies so they in turn can explain its importance to consumers.

Elsewhere in Washington the Food and Drug Administration is out building public support for stepped-up regulatory enforcement. Obviously this agency has to keep our food and drugs safe. Other countries are less fortunate. George P. Larrick, commissioner of food and drugs, reports that only last year five Moroccans got death sentences and three others went to prison for life for adding motor oil to cooking oil. The motor oil contained a chemical that paralyzed 10,000 people.

Mr. Larrick wants to develop interest in the problems of countless new chemicals going into food, drugs, and cosmetics, and wants support for intensified FDA effort. Whether FDA goes about its job the right way or not is a matter of opinion, but those in packaging should be aware of trends to more stringent regulation.

Clear view of field: key to solving problems

Whatever the effect of these doings and reports they stress the need for a broad view of packaging besides ability to do a specific job well.

Fortunately, we have a guide to a mountain-top view of packaging technology. The erudite president of Polymer Industries, Inc., Frank C. Campins, packaging's indefatigable philosopher, has been doing some fundamental thinking about packaging technology, its organizations, and its professionalism. He offers his views in the lead article of this issue.

No matter how many years of experience or how much sophistication of background you have, Dr. Campins' observations should give you a refreshing, unifying view. Without a clear understanding of packaging and its meaning, fragmenting specialization will continue to plague you.

Bruce Hollingsworth

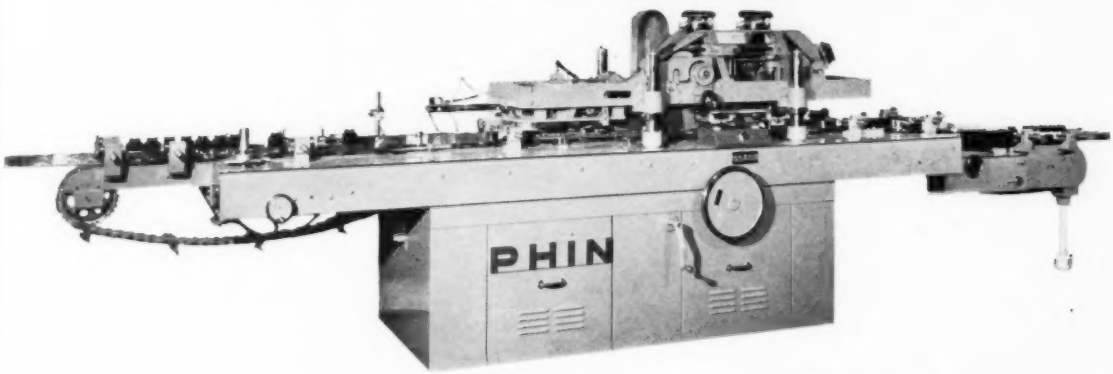
Editor

?&!

IF DRUGS ARE YOUR BUSINESS

PHIN

IS YOUR LABELER



ELI LILLY AND COMPANY tried PHIN for their 20 package combinations of spacesaver bottles (plastic & glass), with three-panel labels. Their complete range is now operating on a single, fully automatic PHIN labeler at speeds from 20 to 120 b.p.m. ELI LILLY thinks PHIN is a good answer!

If your business is drugs, the PHIN labeler is worth investigating. Phone, write or wire:

PHIN SALES COMPANY, 26 LIPTON AVE., TORONTO 6, CANADA / U. S. distributor: PACKAGE MACHINERY COMPANY, EAST LONGMEADOW, MASSACHUSETTS. PACKAGE

For more information circle No. 276 on Reader Service Card

V
6
/
8

A
G

6
1
MI

A NEW SOURCE FOR POLYETHYLENE PAPERS

—with a difference! The 96″ extruder-coater shown above is one of the largest and most modern in the industry — yet we can offer the extra, personalized service that goes with a relatively small organization such as ours. Try us on small orders, large orders, any paper or board, plus the right resin to provide a barrier or wrap with the specified physical properties. Your inquiries will be welcomed — contact our main office, Dept. 908, Attleboro, Mass. AMERICAN SISALKRAFT COMPANY, Division of St. Regis Paper Company. Sales Offices: Attleboro, Massachusetts; Cary, Illinois; San Francisco, California.

For more information circle No. 277 on Reader Service Card